

Departments of the Army and the Air Force  
National Guard Bureau  
Arlington, VA 22202-3231  
29 March 2002

\*NG Circular 385-95

Safety

## ARMY NATIONAL GUARD (ARNG) AVIATION SAFETY PROGRAM AND AVIATION ACCIDENT PREVENTION PLAN (AAPP)

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By Order of the Secretaries of the Army and Air Force:

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**History.** This printing publishes a revision of National Guard (NG) Pamphlet (NG Pam) 385-95 (Army National Guard [ARNG] Aviation Accident Prevention Plan), 7 January 1985; and re-grades the document as a NG Circular (NG CIR) in accordance with (IAW) Army Regulation (AR) 25-30 (The Army Publishing and Printing Program), paragraph (para.) 9-1b(2). It reflects nearly 17 years of changes to public law, Department of Defense (DoD), and Department of the Army (DA)-level policies; Findings and Recommendations from ARNG accidents; those relevant accident lessons learned from other components, services, and agencies; and unincorporated All-States Letters and other policy letters and memorandums – since the last revision/publication of NG Pam 385-95.

**Summary.** This document supersedes the 7 January 1985 version of NG Pam 385-95 (under a Headquarters DA [HQDA] Exception to Policy granted 21 December 2001). It (also) establishes the ARNG AAPP as outlined in, and required by: AR 385-95 (Army Aviation Accident Prevention); AR 385-10 (The Army Safety Program); Field Manual (FM) 3-100.12 (Risk Management); FM 100-14 (Risk Management); AR 130-5 (Organization and Functions of National Guard Bureau), Figure 1-1; 29 Code of Federal Regulations (CFR) 1960.1(a), and 1960.8(c); and 41 CFR, Volume 2, Subpart 101-37.12 (Federal Agency Aviation Safety Program). Although this Circular may make reference to other publications, it does not repeat (these) requirements noted elsewhere unless specific highlighting or emphasis of requirements for document clarity was warranted. In describing some processes that are detailed across a variety of publications, these processes have been consolidated herein for cogency. And, in many cases, (at least) the (suggested) methodology of implementation of these other requirements has been delineated. Within the umbrella of establishing the ARNG Aviation Safety Program, several policies and procedures – and the instructions for their administration – are established herein.

**A Note About Mandates Versus Guidance in This Circular.** When the verbs *shall*, *will*, or *must* (or a verb used in the imperative mood [for example, *do*]) appear in this Circular, they typically reflect a conveyance of another existing published requirement in a Regulation, Pamphlet, Directive, All-States Letter, Policy Memorandum, or some other official mandate. Mandatory provisions throughout this Circular are typically suffixed with parenthetical reference to the parent text (for example, "reference AR 385-95, para. 3-3a."). The verb *should* is used to strongly recommend an action. The verbs *may* or *can* suggest an action, leaving the choice to the reader.

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\*This Circular supersedes NG Pam 385-95, 7 January 1985.

**Applicability.** This Circular applies to all soldiers, civilians, technicians, and contractors assigned, attached, Operationally Controlled (OPCON'd), or performing contracted services for/to the ARNG – to include subordinate elements assigned under (the) Operational Support Airlift Agency (OSAA)/Operational Support Airlift Command (OSACOM). Unless otherwise specified in an attachment or assignment order during deployments, this Circular (also) applies.

**Proponent and exception authority.** The proponent of this Circular is the Chief, NGB-AVS. The proponent has the authority to adjudicate, interpret, and approve exceptions to this Circular that are consistent with controlling law(s) and regulation(s).

**Management Control Process.** This Circular is subject to the requirements of AR 11-2 (Management Control). It contains management control provisions and a checklist for conducting Management Control reviews; which were published under (a) separate cover. As a method of management control evaluation at the Major Army Command (MACOM)-level, the checklist in AR 385-95, Appendix D, shall be used. Management Control Evaluations at the State/Territory-level and below are satisfied IAW paragraph 3-2 of this Circular, and separate evaluation is not required.

**Army Performance Improvement Criteria (APIC).** Units/Facilities participating in APIC, or like voluntary programs as discussed in AR 5-1 (Army Management Philosophy), and AR 5-4 (Department of the Army Productivity Improvement Program), may utilize Appendix B of this Circular.

**Supplementation.** Supplementation of this Circular is prohibited without prior approval from the Chief, National Guard Bureau, ATTN: NGB-AVS, 111 South George Mason Drive, Arlington, VA 22204-1382.

**Suggested Improvements.** Users are invited to send comments or suggested changes on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Chief, National Guard Bureau, ATTN: NGB-AVS-SA (NG CIR 385-95), 111 South George Mason Drive, Arlington, VA 22204-1382.

**Impact on Unit Manning System.** This Circular does not contain policies that affect the Unit Manning System.

**Restrictions.** Approved for public release; distribution unlimited. Local reproduction is authorized and encouraged.

Distribution. A-C (reference AR 25-30, para. 12-7).

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## Chapter 1 General

### 1-1. Purpose.

a. This Circular formally establishes the Aviation Safety Program, and Aviation Accident Prevention Plan (AAPP) within the ARNG; and covers all aviation operations – air and ground. It is designed to avert accidents and conserve manpower and aviation equipment without compromising the fulfillment of the ARNG mission. The Circular outlines personnel responsibilities, and provides implementation instructions, goals and methods the ARNG will use to monitor the success of the overall aviation safety program.

(1) In communicating these instructions and methods, some ambiguities or vagueness are intentionally included to give the widest latitude to the local Commander for successful program implementation. In cases of differing opinions as to the appropriateness of a method for implementation, the benefit of the doubt belongs to the implementing local Commander. In more protracted disagreements, the proponent of this Circular (NGB-AVS) shall serve as the final authority, consistent with controlling law(s) and regulation(s).

(2) In much the same fashion that *annual writ* binders contained only extracts of the battery of regulations for which aviators were expected to demonstrate knowledge each year – this Circular is best viewed as a highly-compressed and user-friendly compendium of the scores of publications upon which the ARNG Aviation Safety program is based.

(3) Also, ***no new requirements*** have been added with this Circular – which was designed to *implement* the several regulations, directives and laws, *not supplement* them. Rather, several requirements have been clarified, and many others throughout this Circular have been streamlined, simplified, reduced, or even eliminated.

b. **This Chapter** provides introduction of, background to, and the underlying philosophy of the ARNG Aviation Safety Program and AAPP; and details the responsibilities relevant thereto.

1-2. **References.** Required and related publications are listed in Appendix A. Prescribed and referenced forms are also listed in Appendix A.

1-3. **Explanation of Abbreviations and Terms.** Abbreviations and Special Terms used in this Circular are listed in the Glossary. Also see abbreviations and special terms listed in the Glossary of AR 95-series, National Guard Regulation (NGR) 95-210 (Army National Guard: General Provisions and Regulations for Aviation Training), and 29 CFR Part 1910 (Occupational Safety and Health Standards).

1-4. **Scope.** This Circular is applicable to all aviation operations within, or supported by, the ARNG. A copy of this Circular shall be maintained by each Detachment/Company/Troop-sized element and larger.

1-5. **Aviation Safety Philosophy.** Aviation Safety, as a discipline, is the embodiment of the art and science dedicated to mission execution with the highest return on investment, at the lowest acceptable risk. The *Five-Step Accident Prevention* Process, as discussed herein, is used to produce a Model Safety Program - one that objectifies and includes Mission Protection, Damage Control, Liability Limitation, Management Improvement, Injury Prevention, and Occupational Safety and Health Administration (OSHA) Compliance.

a. Mission accomplishment with minimum risk is the main thrust of the ARNG AAPP. A successful accident prevention program is a byproduct of command supervision. Effective command supervision includes attention to proper procedures in sufficient detail to prevent the occurrence of accidents. Nothing in the planning stage of a military mission can be left to chance, nor can proper performance on the part of personnel be assumed. There are few, if any, aircraft accidents within the ARNG resulting from new or

exotic causes. A successful aviation accident prevention program can be accomplished through proper training, job performance, and supervision.

b. Most aviation accidents can be linked either to individuals performing tasks beyond their proficiency level, or a tendency toward complacency during routine operations. Training programs must be realistic, meaningful, and used to identify and expand the capabilities of each individual and Unit/Facility. At the same time, training must be conducted in a safety-conscious environment in which all participants think safety, follow prescribed procedures, are alert to potential unsafe acts, and operate within their own limitations and capabilities, and that of their equipment.

c. Any individual who knowingly violates regulations or established safety procedures that may contribute to an aviation accident shall be subject to prompt disciplinary actions.

**1-6. Duties and Responsibilities** (in addition to the several other requirements).

a. **Chief, NGB (CNGB)**, is responsible for the overall supervision of the ARNG Safety and Occupational Health (SOH) Program, and for coordinating with other HQDA staff agencies and the State/Territory Adjutants General (AGs) on matters pertaining to accident prevention and occupational illnesses; and

(1) serves as Approving Authority for ARNG Class A, B, and C aircraft accidents reports. This authority may be formally delegated to the Chief, NGB-AVS. Further delegation is not authorized.

**Note:** This does not negate the need for reviewing Commanders (and those with specific command authority) to implement countermeasures, and ensure corrective actions are emplaced, as a result of recommendations made during the Accident Reporting process.

b. **Director, ARNG**, ensures adequate resources are allocated to support an effective ARNG SOH program, and, in addition to NGR 95-210, para. 1-6:

(1) Provides for a continuous and comprehensive accident prevention effort that is compatible with the mission of the ARNG; and

(2) ensures those appointed in a capacity to represent the Safety program interests of the ARNG to other-than-ARNG organizations should be rated, intermediate-rated, or senior-rated by a member of the ARNG. For example, the National Guard Liaison to the United States Army Safety Center (USASC) should be intermediate-rated by the Chief, Aviation and Safety Division (NGB-AVS).

c. **Deputy Director, ARNG**, serves as the Chair of the ARNG Executive Safety and Health Advisory Council (as/when appointed by the Director, ARNG), and in that capacity ensures the ARNG Directorate focuses on safety and health matters within the ARNG.

d. **Chief, Aviation and Safety Division (NGB-AVS)** has the staff responsibility for supervising the ARNG SOH Program.

(1) **Chief, Aviation Operations Branch (NGB-AVS-O)** is responsible (on behalf of the Chief, NGB-AVS) for monitoring ARNG aviation operations to ensure policy, concepts, requirements, and organization(s) support safe standards and practices.

(2) **Chief, Aviation Systems Branch (NGB-AVS-A)** is responsible (on behalf of the Chief, NGB-AVS) for safe aviation maintenance, logistics (supply), and Quality Control (QC)/Quality Assurance (QA) programs.

(3) **Chief, SOH Branch (NGB-AVS-S)** is responsible (on behalf of the Chief, NGB-AVS) for recommending and implementing an effective ARNG SOH Program including Aviation Safety and the Occupational Safety and Health (OSH) Act of 1970; related laws, regulations, etc.

(a) **Chief, Aviation Safety Section (NGB-AVS-SA)** shall (on behalf of the Chief, NGB-AVS):

1. Establish, coordinate, and field an Aviation Safety program to provide accident prevention promeasures and countermeasures for all aviation operations, including maintenance of this Circular;
2. coordinate with Facility and Unit Safety Officers to ensure maximum cooperation in matters of mutual concern pertaining to Aviation Safety;
3. provide targeted safety training to ARNG Active Guard/Reserve (AGR), Technician, and M-day Aviation Safety Officers (ASOs) and Aviation Safety Noncommissioned Officers (ASNCOs);
4. monitor the Aviation Safety program for career development of ARNG ASOs/ASNCOs;
5. review all applicable directives and regulations to ensure adequate provisions for safety and safe physical standards are incorporated (this requirement is in addition to that for each Commander in the ARNG to do likewise);
6. review accident experience trends and provide an analysis to appropriate agencies/organizations;
7. conduct safety/accident prevention surveys to review operating and training procedures and initiate the action(s) necessary to eliminate inherent or accident-producing hazards; and
8. administer, with the ARNG Multi-Media Branch, the SafeFlight program IAW paragraph 7-2c of this Circular.

(4) **Chief, ARNG Multi-Media Branch (NGB-AVS-MMB, Ft. Rucker, AL)** shall perform the following relative to the ARNG Aviation Safety Program:

- (a) Coordinate with NGB-AVS-S and the State/Territory ASOs/Safety Specialists in developing, acquiring, producing, and distributing safety promotional and educational materials (see paragraph 7-2b of this Circular;
- (b) coordinate with other DoD and Federal agencies as required to acquire and distribute safety promotional and educational materials that will enhance the ARNG Aviation Safety Program;
- (c) provide guidance and assistance to the State/Territory ASOs/Safety Specialists in managing their individual safety promotional and educational programs;
- (d) provide a direct communications link between the States and Territories to avoid duplication of effort and ensure cost-effective development of safety promotional and educational materials; and
- (e) administer, with NGB-AVS-SA, the SafeFlight program IAW paragraph 7-2c of this Circular.

e. **Each AG** is responsible for:

- (1) Establishing an ARNG AAPP within the State/Territory; and
- (2) complying with statutory and regulatory requirements pertaining to aircraft operations.

f. **Each State Army Aviation Officer (SAAO)** serves as the focal point for aviation safety program management at the State/Territory level and is responsible to the(ir) AG (TAG) for implementing and supervising the(ir) AAPP. They are responsible for coordinating aviation safety matters among National Guard Bureau (NGB), State/Territory staff, Aviation Facilities, Units, and Sections (see paragraph 3-5e of this Circular).

(1) SAAOs are authorized to appoint, or ensure the appointment of, a State Aviation Safety Officer (SASO), as provided in the applicable Modified Table of Organization and Equipment (MTOE), Table of Distribution and Allowances (TDA), or Manning Document; or by Additional Duty Appointment Order – to provide general oversight of Aviation Safety programs within the State/Territory, and assistance to each aviation Unit or Facility within the State/Territory in the administration of each subordinate Aviation Safety program. The State Aviation Safety Officer, as/when appointed, shall be in a rank/grade (and rated) as defined in the applicable MTOE, TDA, Manning Document, or Additional Duty Appointment Order, but should have direct access to the SAAO for matters concerning Aviation Safety.

**Note:** When appointing an SASO, consideration should be given to the functions (to be) performed by the SASO, and those performed by the ASO(s) of the Units/Facilities within the State/Territory. For example, the general oversight and assistance functions performed by an SASO (for a Facility ASO) may become abbreviated, or foregone altogether, should the Facility ASO (also) be appointed as an additional-duty SASO.

**g. Army Aviation Support Facility (AASF)/Army Aviation Flight Activity (AAFA)/Aviation Classification and Repair Activity Depot (AVCRAD)/ARNG Aviation Training Site (AATS) Commanders** are responsible for the provisions of NGR 95-210, para. 1-11, and:

(1) Appointing on orders an ASO, and ASNCO, to administer the Facility Safety program (this appointment should also include an Assistant ASO [see paragraphs 4-1b(2), and 7-3 of this Circular]);

(a) ensuring all personnel appointed to safety or safety-related positions are denoted on by-name orders issued IAW AR 600-8-105 (Military Orders), para. 2-5; and establish (a) Safety Council(s) (see paragraph 3-3 of this Circular) and chair/ensure cognizance of all Command Safety Council (CSC) meetings;

(2) conducting follow-up actions on recommendations submitted by the Accident Investigation Board (AIB), Aviation Safety Council (ASC) (or CSC), Aviation Safety meetings, DA Forms 2696-R (Operational Hazard Reports [OHRs]) (and like forms), and safety or safety-related surveys (for example, the Aviation Resource Management Survey [ARMS]);

(3) supervising aviation operations, aircraft maintenance, standardization, and the Additional Flight Training Period (AFTP) portion of the Aircrew Training Program (ATP) not conducted under Active Duty Training (ADT) or (other) Inactive Duty Training (IDT) status;

(4) advising and assisting Unit Commanders concerning the use of ARNG aircraft and their responsibilities for aviation safety;

(5) conducting a continuous vigorous effort toward preventing accidents and occupational illness in operations and activities;

(6) ensuring aircraft are operated and maintained IAW established published safety practices;

(7) ensuring, as/if required, Memorandums of Understanding (MOUs)/Memorandums of Agreement (MOAs) are established between their Facility and the Units the Facility supports (see paragraph 2-7b of this Circular);

(8) develop, as required, a snow and ice removal plan IAW FM 1-300 (Flight Operations Procedures), para. 3-3f (see paragraph 4-23 of this Circular);

(9) complying with and implementing NGR 385-5 (Aviation Support Activity Accident Prevention Survey [ASAAPS] Program);

(10) ensuring each AFTP has a designated supervisor who is responsible for mission, safety, and weather briefings; and



(11) ensuring mission briefings are comprehensive and complete for all missions.

h. **The Unit Commander** shall, in addition to NGR 95-210, para. 1-13 (also see paragraphs 3-4c(1), and 3-5b of this Circular):

(1) Appoint on orders an ASO, and ASNCO, to administer the Unit safety program (this appointment should also include an Assistant ASO [see paragraphs 4-1b(2), and 7-3 of this Circular]);

(a) ensuring all personnel appointed to safety and safety-related positions are denoted on by-name orders issued IAW AR 600-8-105, para. 2-5 (also see paragraph 4-1 **Note** of this Circular);

(2) ensure (by inquiry, discussion, command emphasis, and interest) Unit personnel know of, and support, the AAPP (see paragraph 2-7a of this Circular);

(3) establish (a) Safety Council(s) (see paragraph 3-3 of this Circular) and chair/ensure cognizance of all CSC meetings;

(4) conducting follow-up actions on recommendations submitted by the AIB, ASC (or CSC), Aviation Safety meetings, OHRs (and like forms), and safety or safety-related surveys (for example, the ARMS);

(5) attend/ensure cognizance of all (applicable) safety briefings (see paragraph 3-4a(2) of this Circular);

(6) ensure mission briefings are comprehensive and complete for all missions;

(7) request quotas for safety schools conducted by the U.S. Government and contractors; send qualified personnel to attend these courses; and place school-trained Safety personnel in appropriate positions; and

(8) develop, as required, a snow and ice removal plan IAW FM 1-300, para. 3-3f (see paragraph 4-23 of this Circular).

i. **The State/Territory, Regimental, Group, Brigade, and/or Battalion/Squadron ASO(s)** shall, in addition to those duties in AR 385-95, para. 1-6d:

(1) Assist in defining and implementing basic policies, plans, and procedures for establishing, supervising, and directing a functional (State/Territory, Regimental, Group, Brigade, and/or Battalion/Squadron) aviation safety program; and for reporting accidents, accident experience, and progress of safety activities as required (and should include regular access of safety-related websites and monitor/query the USASC-administered ASOListserver [ASOListserver@safetycenter.army.mil]) (also reference Federal Aviation Administration [FAA] Advisory Circular [AC] 150/5080-8A [Office of Airport Safety and Standards Electronic Bulletin Board]; also see paragraph 1-6k(4) of this Circular);

(2) advise and coordinate with the State Safety Officer/Manager on all matters pertaining to the State/Territory Aviation Safety program;

(3) coordinate the aviation safety program with all affected elements of each affected staff level;

(4) arrange for procurement and selective use of aviation safety posters, films, and other safety educational and promotional publications and materials (see paragraph 7-2 of this Circular);

(5) supervise and direct specific aviation safety training, as required;

(6) serve as a member of the applicable-level Safety Council(s) (for example, Battalion ASOs serve on the Battalion Safety Council, and on the Group/Regiment/Brigade Safety Council);

(7) ensure safety/accident prevention surveys are conducted (within subordinate organizations);

(8) review and forward aviation accident and incident (mishap) reports IAW paragraph 3-7 of this Circular, and AR 385-40 (Accident Reporting and Records), as appropriate;

(9) serve in a dotted-line relationship with ASOs between each echelon of command; and

(10) serve as the principal safety mentor to the Assistant ASO (as/when appointed) and the ASNCO.

j. **The Unit/Facility ASO/ASNCO** shall (also) perform those functions as required by AR 385-95 (see paragraph 2-5e of this Circular) and DA Pam 385-1 (Small Unit Safety Officer/NCO Guide). The Unit ASO/ASNCO shall (also) meet the requirements of AR 385-10, Chapter 2; and be appointed IAW the current MTOE/TDA/Manning document; and:

(1) The Safety personnel appointment requirements of AR 385-10, para. 2-1f(2), shall be satisfied with a CW2 or higher (as authorized by the current MTOE/TDA/Manning document); and have completed a formal (Safety) Military Occupational Specialty (MOS)-producing course. Battalion/Squadron/Brigade/Group/Regiment ASOs should have served at least one year as a Detachment/Company/Troop ASO. ASOs (regardless of organizational echelon) should have completed an Aviation Safety Officer Refresher Course (ASORC) by their fourth year as the same, and each four years thereafter. Also see paragraph 7-3 of this Circular.

(2) The Safety personnel appointment requirements of AR 385-10, para. 2-1f(3), shall be satisfied with a Corporal E-4 (NCO) or higher for Detachments/Companies/Troops, as authorized by the current MTOE/TDA/Manning document.

(3) ASNCOs (E-4 to E-9) should have completed, or should complete within one year of (appointment) orders to the safety position, the Aviation Accident Prevention Course (Enlisted) (course number NGB-7K-F13), that meets the requisites for award of a Safety Additional Skill Identifier (ASI). For purposes of this Circular, the ASO Course (also) satisfies this requirement. However, neither AR 385-95, paragraph 1-4j(3)(c) – nor this Circular – require the ASNCO to be “school-trained”. Local Commanders may appoint *qualified individuals* in lieu of those that are “safety-trained,” and the extent to which an ASNCO is *qualified* is determined by the local Commander.

(4) Unit (Detachment through Brigade/Group/Regiment)/Facility ASOs shall report to, and be rated by, the Commander.

**Note:** Facility ASOs shall serve as mentors and central points of contact (POCs) within the State/Territory to the ASOs of the Units supported by their Facility.

k. **The Unit/Facility ASO** is responsible for:

(1) Assisting and advising the Unit/Facility Commander on all matters pertaining to safety – air and ground;

(2) all matters pertaining to safety in the local Standing Operating Procedure (SOP);

**Note:** This does not imply delegation of accountability for the Safety program from the Commander to the ASO, but rather, stewardship of certain aspects of the Safety program. The Commander remains ultimately responsible for the Safety program.

(3) monitoring policies, standards, and procedures to ensure integration of the accident prevention principles (this should include regularly accessing safety-related websites and monitoring/querying the ASOListserver) (also reference AC 150/5080-8A);

(4) maintaining files and records IAW AR 25-400-2 (The Modern Army Recordkeeping System [MARKS]), of the history of the safety program of the Unit/Facility, in addition to other required safety data (for example, higher headquarters Safety Council minutes);

(a) MARKS files may be maintained electronically to the degree determined appropriate by, and at the discretion of, the ASO. When maintaining files electronically, some system of back-up files (for example, copying to a disc or means other than the computer hard drive or network, or printed files) should be emplaced.

(b) States/Territories may authorize Units to consolidate their Safety-related MARKS files no higher than Battalion/Squadron level, provided the State/Territory establishes the criteria for which safety files are to be maintained at the Unit level. This is typically accomplished in a State Regulation 385-10, or like document. Units consolidating their files should consider the Mission Essential Task List (METL) and likelihood of deployment (and deployability) of subordinate elements. In most cases, a Company cannot be deployed in such a manner (as *only* a Company) – in which case, MARKS file consolidation at the Battalion level may be authorized and is recommended.

(c) See Appendix C of this Circular for Sample MARKS file labels.

(5) conducting Aviation Accident Prevention Surveys (AAPSs), maintaining files of such surveys, and making positive corrections, or recommendations for corrections, of discrepancies noted;

(6) coordinating with Operations, Maintenance, and Training sections to ensure Aviation Safety practices are integrated in all aviation and ground activities;

(7) maintaining safety bulletin boards IAW FM 1-300. Also see paragraph 3-4d(2) of this Circular;

(8) monitoring the Unit/Facility pre-accident plan;

(9) coordinating with other Safety Officers throughout the State/Territory on matters of Aviation Safety;

(10) conducting and recording, as a minimum, monthly safety briefings (quarterly for Units principally staffed by M-day personnel that have not deployed longer than 180 days in a given fiscal year [also see paragraph 3-4a of this Circular]) and quarterly Safety Council meetings;

(11) administering (or monitoring) aviation training activities to ensure accident prevention and risk management principles and procedures are adhered to (see Chapter 2 of this Circular);

(12) serving, as required, as the principal safety mentor of the Assistant ASO (as/when appointed) and ASNCO; and

(13) serving, as required, in a dotted-line relationship with ASOs between each echelon of command.

l. **The Assistant ASO** (as/when appointed) should:

(1) Serve as the principal assistant, and understudy, to the ASO;

(2) serve as the acting ASO in times of deployment or other absence of the ASO (see paragraph 4-1b(2) of this Circular); and

(3) report, in a dotted-line relationship, to the ASO.

m. **The ASNCO** assists, advises, and makes recommendations to the ASO on aviation accident prevention matters. Their responsibilities include:

(1) Maintaining liaison with the Command Sergeants Major (CSMs), First Sergeants (1SGs), and other Enlisted personnel on all aviation safety matters;

(2) observing aircraft support activities (for example, Petroleum, Oil and Lubricants [POL], maintenance, operations, Enlisted Crewmember training) to detect and report unsafe practices or procedures;

(3) participating as a member in the Enlisted Safety Council (ESC) (or CSC);

(4) maintaining liaison between the ESC and the CSC;

(5) posting reference (MARKS) files, for/with the ASO, of aviation safety literature. Ensuring files and safety-related publications are current and complete;

(6) taking part in Unit/Facility safety/accident prevention surveys; and

(7) reporting, as required, in a dotted-line relationship, to the ASO.

n. **The Aviation Maintenance Officer (AMO)** (in addition to paragraph 5-4c(2) of this Circular) ensures:

(1) Appropriate and sufficient maintenance training is provided to all Maintenance personnel to allow them to safely complete their assigned task(s);

(2) shop areas are surveyed for safety hazards;

(3) safety equipment is available and actively used;

(4) the Commander is briefed on maintenance test flight/run-up schedules;

(5) the ASO is advised of accidents/incidents in a timely fashion;

(a) and copies of Estimated Cost of Damage (ECOD) and Actual Cost of Damage (ACOD) (if different from the ECOD) are forwarded to NGB-AVS-SA as soon as practicable (by facsimile [fax] at Defense [or Digital] Switching Network [DSN] 327-8701/-7788; or Commercial 703 607-8701/-7788), particularly for accident-damaged parts submitted to an AVCRAD for disposition and/or repair;

**Note:** Units/Facilities may implement a system of "Abbreviated Aviation Accident Report (AAAR) Worksheets" - whereby Aircrews complete a locally-produced questionnaire that the ASO later converts to the data required on the AAAR. The Unit/Facility SOP should provide a specific description of, and instructions for, such worksheets. The locations of these worksheets should be specified in the Unit/Facility SOP (for example, "...at the Operations desk.").

(6) maintenance practices are standardized and conducted by-the-book;

(7) the cannibalization program, and controlled exchange program, are established IAW FM 3-04.500 (Army Aviation Maintenance); DA Pam 738-751 (Functional Users Manual for the Army Maintenance Management System – Aviation [TAMMS-A]); and other appropriate directives; and

(8) appropriate Maintenance personnel are appointed to, and participate in, Unit/Facility Safety Council(s).

o. **Maintenance Personnel** shall:

(1) Perform maintenance tasks IAW appropriate maintenance/technical manuals;

(2) wear appropriate Personal Protective Equipment (PPE) to prevent personal injury;

(3) comply with safety practices referenced in this Circular, and IAW Unit/Facility SOP(s), and applicable directives; and

(4) report materiel/publication deficiencies through submission of Standard Form (SF) 368 (Product Quality Deficiency Report [PQDR]) (see paragraph 5-1 of this Circular), or DA Form 2028 (see paragraph 4-24 of this Circular), as appropriate.

**p. The Operations Officer shall:**

(1) Compare flight records and the Unit/Facility training program to ensure training is directed toward known deficiencies;

(2) develop a positive plan that ensures mission and aircraft assignments are within crew and equipment capabilities;

(3) brief the Commander on the mission schedule;

(4) ensure the Aircrew Information Reading File (AIRF) is maintained IAW AR 95-1 (Flight Regulations), and Training Circular (TC) 1-210 (Aircrew Training Program Commander's Guide to Individual and Crew Standardization);

(5) cause sound and standardized flight principles and risk management procedures to be followed for all operations regardless of mission urgency IAW AR 34-4 (Army Standardization Policy), AR 95-1, NGR 95-1 (ARNG Aviation: Flight Regulations), NGR 95-210, FM 3-0 (Operations), FM 100-14, and FM 3-100.12;

(6) prepare and maintain the Unit/Facility Pre-Accident Plan (see paragraph 4-16 of this Circular);

(7) require adequate and timely weather reports be provided to aircrews during garrison operations and field exercises;

(8) ensure aircraft mission briefings are comprehensive and complete for all missions;

(a) and the Mission Turndown/Turnback Protocol in paragraph 4-1a of this Circular is considered, as necessary;

(9) monitor medical status of all assigned aircrewmembers. Inform the Commander immediately of any change in crewmember flight status;

(10) include the ASO in the planning stage(s) for all field (and) training exercises;

(11) advise the ASO of training/standardization problems affecting Safety of Flight (SOF); and

(12) noise abatement procedures are implemented in the Unit/Facility SOP, and briefed (as required) in each mission. Also reference AC 91-66 (Noise Abatement for Helicopters).

**q. The Flight Surgeon/Aviation Physician's Assistant (APA) shall:**

(1) Maintain liaison within the command to implement the aviation medicine program;

(2) take part in, and observe, flight operations to monitor the interactions of crewmembers, aircraft, and environment (see paragraph 3-5 of this Circular);

(3) serve as a member of aircraft AIBs, as required IAW AR 385-40;

(4) serve as a member of Flying Evaluation Boards (FEBs);

(5) ensure the medical portion of the pre-accident plan is adequate, including pathology and chain-of-custody considerations IAW AR 40-31 (Armed Forces Institute of Pathology and Armed Forces Histopathology Centers), and AR 40-21 (Medical Aspects of Army Aircraft Investigation) (see paragraph 3-7c(1) of this Circular; also reference AR 40-3 (Medical, Dental, and Veterinary Care); and AR 385-95;

(6) monitor the physical and mental well being of aviation personnel, including (and for the potential of) drug or alcohol abuse;

(7) ensure aircrewmembers are aware of self-medication restrictions;

(8) monitor the survival and physiological training of aviation crewmembers;

(9) medically review crewmembers for further flight duty after aircraft accidents and inform the Commander of (the) results;

(10) make recommendations to improve the human factors compatibility, crashworthiness, and survival features of aircraft determined from aircraft accident investigations or from observations made when/while performing other aeromedical functions (see Table 2-2 of this Circular);

(11) take part in aviation safety meetings to educate Aircrewmembers on the aeromedical aspects of flight;

(12) ensure presentation of the Aeromedical Continuation Training subjects in Table 3-2 of this Circular (see paragraph 3-5e(3) of this Circular);

**Note:** The United States Army School of Aviation Medicine (USASAM) has posted several very thorough Aeromedical Training presentations/Programs of Instruction (POIs) on their website, available for download at <http://usasam.amedd.army.mil/ARMS/classes/classes.htm>.

(13) ensure proper fitting, use, and serviceability of Aviation Life Support Equipment (ALSE);

(14) assist in, and advise on, hearing and eyesight conservation programs; and

(15) attend an aviation medicine-related course once every three years after completion of the Primary Flight Surgeon's Course (see paragraph 7-1f of this Circular).

**Note:** This Continuing Medical Education (CME) requirement is consistent with the licensure requirements of all cognizant State/Territory Medical Licensure Boards, and adds no burden to the individual or the ARNG.

r. **The ALSE Technician (ALSET)** shall, at the direction of the ALSE Officer (ALSO) (see paragraph 6-1 of this Circular):

(1) Establish a library of ALSE publications and ensure the Unit/Facility pinpoint distribution account is updated to include ALSE publications and necessary forms;

(2) ensure all ALSE is maintained in a high state of readiness through inspecting, cleaning, fitting, testing, adjusting and repairing;

(3) maintain files on inspection, maintenance; expiration dates, and supply(ies) pertaining to ALSE;

(4) participate as an Enlisted representative at aviation safety meetings and conferences;

(5) participate in local ALSE Steering Council meetings (see paragraph 3-3i(3) **Note** of this Circular); and

- (6) inspect all controlled drugs in survival kits and vests.

s. **Pilots-in-Command (PCs)** shall:

(1) Ensure crew and passengers are briefed (reference FM 1-400 [Aviator's Handbook]; 29 CFR 1910.183 [Helicopters]; paragraph 4-14 of this Circular, and appropriate Technical Manuals [TMs] [particularly the aircraft Operator's Manual], Aircrew Training Manuals [ATMs], and local directives. Also reference AC 91-32B [Safety In and Around Helicopters], and AC 91-42D [Hazards of Rotating Propeller and Helicopter Rotor Blades]). This briefing as a minimum will include a passenger and crewmember briefing on the items that may affect safety or mission completion, such as: Emergency exits, life support systems and equipment, emergency and abandon aircraft signals, survival equipment, and special instructions;

**Note:** Reference AC 121-24B (Passenger Safety Information Briefing and Briefing Cards), for information regarding the items that are required to be, or should be, covered in oral passenger briefings, and suggestions about making this information interesting and meaningful.

(2) ensure ALSE commensurate with the mission and the operational environment is available on the aircraft, and aircrewmembers and passengers are briefed on its location and use; and

(3) ensure each mission is thoroughly briefed, authorized, and risk-managed; and those requiring exercise of the Mission Turndown/Turnback Protocol noted in paragraph 4-1a of this Circular are considered (either as the initial or subsequent crew/Unit).

t. **The Aviator/Aircrew** shall:

(1) Attain and maintain proficiency in assigned aircraft;

(2) maintain physical and mental fitness (including crew endurance);

(3) comply with sound flight principles and safe practices during all flight operations regardless of mission urgency;

(4) make on-the-spot corrections of unsafe conditions when appropriate; or

(5) report hazards and unsafe conditions or acts to the proper authority;

(6) immediately report accidents/incidents (mishaps) to the ASO, in addition to performing those actions in the Unit/Facility pre-accident plan; and

(7) inform the Flight Surgeon of activities/medical treatment for which flying restrictions may be appropriate IAW AR 40-8 (Temporary Flying Restrictions Due to Exogenous Factors).

u. **Supervisors, Platoon Leaders, Section Leaders, and Individuals** shall:

(1) Correct all known safety deficiencies on-the-spot; or

(2) report all unsafe conditions to the Unit/Facility ASO when on-the-spot corrections cannot be made;

(3) dedicate sufficient time to safety-related functions and duties, particularly for those individuals appointed on orders in/to a safety-related program;

(4) ensure all individuals receive continuous supervised safety training in job activities (that is, ensure individuals are not left to "...just figure it out...");

(5) report all damage to aircraft, Ground Support Equipment (GSE), and personnel injuries immediately; and

(6) read and comply with Unit/Facility SOP.

## Chapter 2

**Systems Safety and Application.** This chapter defines: a) The model and rationale of the ARNG Aviation Safety Program and Aviation Accident Prevention Plan (AAPP); b) the elements of each and how they are used; c) how the ARNG Aviation Safety Program is managed at all levels; d) the six contributions of which a safety program is capable and how each is achieved; e) program implementation; and f) agreements that are integral to the implementation process. This chapter bridges the gap between academic theory and practical application by giving the reader a clear roadmap in how to reverse-plan – for aversion – from an accident. The very basis of safety considerations in an Operations Order, a mission briefing, or even composing an SOP, is presented in this chapter.

### 2-1. Mishap Prevention Function. Safety Management Concepts, and the System Approach.

Systems models serve two principal functions: Dissection and analysis of the events that preceded an accident to determine root and proximate causes; and backward planning from key operational points to determine potential weakness that may manifest themselves in an accident. For either use of a systems model, the Five-Step Accident Prevention Process is applied. This chapter outlines the major points of systems models and the application of the Five-Step Accident Prevention Process as a collective Systems Approach to the Mishap Prevention Function.

a. The U.S. Army Institute of Administration (USAIA) System Model (Table 2-1 below) provides a detailed look at the complicated group of systems required to accomplish a mission.

TASK	PERSON	TRAINING	ENVIRONMENT	MATERIEL
Communications Controls Arrangements Demands on People Time Aspects	Selection Mentally Physically Emotionally Qualified Motivated Positive Negative Retention	Types Initial Update Remedial Targets Operating Supervisory Management Considerations Quality Quantity	Lighting Noise Ventilation Others Facilities Grounds Weather	Machine Design Supplies Maintenance

**USAIA System Model**

**Table 2-1**

b. A system is a group of interrelated parts that are designed to work together to accomplish a goal. There are many subsystems contained within a total system; as in Flight personnel and so forth. If any of these subsystems malfunction, the mission will not be accomplished as desired.

c. Using the same analogy, an aviation organization can be viewed as a system. An aviation organization is a group of interrelated parts that has a goal or mission. A Commander's responsibility is to take the available personnel and material resources and design a system that most efficiently and economically accomplishes the mission.

### 2-2. Mishap Causation.

a. The USAIA System Model, modified to incorporate the Army's system approach to accident causation, is shown in Table 2-2 below. The Army (Accident) Causation Model traces the development of a mishap.

(Table 2-2 and subsequent text continued on next page.)



<b>SAFETY MANAGE- MENT ERROR</b>	<b>SAFETY PROGRAM DEFECT</b>	<b>MANAGE -MENT ERROR</b>	<b>SYSTEMS DEFECT</b> (reference AR 385-16 [System Safety Engineering and Management], and DA Pam 385-16 [System Safety Management Guide])	<b>OPERATING ERROR</b>	<b>MISHAP</b>	<b>RESULT</b>
Training Education Motivation Task Design	Revise Information Collection Analysis Implemen- tation	Training Education Motivation Task Design	Design revision via SOP, Regulations, Command Letters and Policy Statements	Engineering Training Motivation	Protective Equip- ment Barriers Separation	Containment Activity Firefighting Rescue Evacuation First Aid

**The Army (Accident) Causation Model**  
**Table 2-2**

b. In reviewing The Army Causation Model, the following conclusions become apparent:

- (1) Given enough data, the outcome of a mishap is not chance, but predictable;
- (2) mishaps result from hazardous situations created by operating errors. Operating errors consist of unsafe acts and unsafe conditions;
- (3) operating errors are caused by defects in the system which, when detected, can be addressed and corrected; and
- (4) system defects arise because of management oversights (Commander/Safety Manager error, Safety Program defect) or errors in the design of the system (task, materiel, environment, training, person). In more directly practical terms: Task, Condition, and Standard.

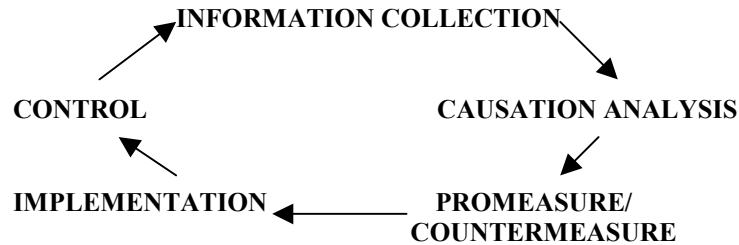
c. The Reserve Component Automation System (RCAS) SOH program, undergoing a several-years implementation throughout the ARNG, cites Contributing Factors in the Army (Accident) Causation Model. These Factors are prompted in the drill-down menus when processing certain accident reports, as shown in Table 2-3 below:

<b>LEADERSHIP</b>	<b>TRAINING</b>	<b>STANDARDS</b>	<b>MATERIEL/SUPPORT</b>	<b>INDIVIDUAL</b>
Inadequate or improper supervision. Inadequate supervision by direct supervisor. Inadequate supervision by unit command. Inadequate supervision by staff officer. Inadequate supervision by higher command.	Inadequate school training. Inadequate unit training. Inadequate on-the-job training. Inadequate experience. Habit interference.	Inadequate written procedures for operation (normal/abnormal). Inadequate written Procedures - ARs. Inadequate written Procedures – TMs. Inadequate written Procedures – FMs. Inadequate written SOPs. Inadequate written Procedures - ATM. Inadequate written procedures other standard publications. No written procedures exist.	Inadequate facilities or services. Inadequate facilities. Inadequate services. Inadequate equipment design or equipment not provided. Improper equipment design. Equipment not provided. Insufficient number or type of personnel. Inadequate quality control, manufacture, packaging, or assembly. Inadequate maintenance.	Inadequate composure (fear, excitement, or anger). Overconfidence or complacency in abilities. Lack of confidence. Inadequate motivation/mood. In a hurry (haste). Poor or bad attitude. Fatigue (self-induced). Effects of alcohol, drugs, or illness. Environmental conditions. Insufficient information to determine system inadequacy or cause <sup>(1)</sup> .

**Note:** (1) This does not indicate unknown causes are automatically attributed to Individual causation.

**RCAS SOH Contributing Factors in the Army (Accident) Causation Model**  
**Table 2-3**

**2-3. Five-Step Accident Prevention Process.** The Five-Step Accident Prevention Process (Figure 2-1 below) provides key elements for the basis for the safety program of this MACOM. This process mandates Aviation Safety personnel establish a program that progressively and proactively manages, rather than reacts. The Five-Step Accident Prevention Process as described in FMs 100-14 and 3-100.12, consists of:



**The Five-Step Accident Prevention Process**

**Figure 2-1**

a. **Information Collection.** The first step in the process is to gather information. The sources of information may include: (1) Aviation (Safety) and Accident Prevention Surveys; (2) OHRs and like forms; (3) previous inspections; (4) published safety material; (5) supervisor observations; (6) personnel interviews; (7) accident reports; and (8) unsolicited information.

**Note:** Information collected is not limited to these sources (above). All information collected will be maintained on a Hazard Log (HAZLOG) as shown in Appendix C of this Circular. Other forms may be used, such as the DA Form 4754 (Violation Inventory Log), so long as they are appended with the Reserve Component Automation System (RCAS) SOH Program-required fields that the form in Appendix D prompts. The format may either be manual or automated.

b. **Causation Analysis.** The causation analysis step requires the grouping of similar potential hazards identified in the information collection step. Analysis of these items will identify the system defects that allow operating errors to exist. A *risk assessment* of these potential hazards allows the Commander to prioritize the use of their resources. The final step will be the verification that the system defect identified does, in fact, exist. The ASO/ASNCO will accomplish this by actually visiting the area where the system defect has been identified and confirming the results of the causation analysis step. Reference AR 385-16; DA Pam 385-16; and FM 100-14, figure 2-5.

c. **Promeasures and Countermeasures.** Promeasures and countermeasures designed to prevent resultant damage or injury can be applied to all seven areas of the model:

TARGET AREA	PROMEASURE/COUNTERMEASURE
Safety Manager Error.	Train, Educate, Motivate, task design/saturation.
Safety Program Defect.	Revise information collection, analysis, implementation, etc.
Management Error.	Train, Educate, Motivate, task design/saturation.
System Defect.	Revise the design of the system (task, materiel, environment, training, and person) via SOP, regulations, and policy letters.
Unsafe Acts/Conditions.	Engineering, train, motivate.
Mishap.	Protective Equipment, barriers, separation.
Result/Damage or Injury.	Firefighting, rescue, evacuation, first aid.

**Promesure/Countermeasure Applications**

**Table 2-4**

(1) The most cost-effective promeasures and countermeasures, however, are those that correct a system defect. The elimination of the system defect will ensure the unsafe act/condition does not recur (see definition of "Recurrence" in the Glossary), thereby preventing a mishap and possible injury or damage. While on-the-spot corrections must be made, an effective promesure or countermeasure will eliminate the system defect and prevent recurring (or even occurring) deficiencies. An effective promesure or countermeasure will contain the following necessary qualities:

(a) **Cost Effective.** The cost of the promesure or countermeasure must be justified by the degree of risk determined in the causation analysis. If it is not justified, an alternate promesure or countermeasure will be developed.

(b) **Well Targeted.** The promeasure or countermeasure must be aimed at the existing system defect. Related defects may require separate promeasures or countermeasures unless cost and practicality allow a single promeasure or countermeasure to eliminate several system defects without reducing effectiveness.

(c) **Mission Supportive.** The single most important quality of the promeasure or countermeasure is supporting the Unit/Facility and its mission. This quality will take precedence, but will not eliminate the requirement for cost effectiveness.

d. **Implementation.** The implementation process assigns the responsibility of the promeasure or countermeasure to an individual; describes what will be done to effect the promeasure or countermeasure, and assigns a suspense for accomplishment of the action required by the promeasure or countermeasure. The Commander will ultimately be responsible for implementation.

e. **Control.** The final step in the process is to ensure implementation, and the effectiveness, of the promeasure or countermeasure. In most cases, the control will be through continued surveys. If an effective promeasure or countermeasure is successfully implemented, the system defect will be eliminated. A vehicle to capture the steps involved in the development of promeasures and countermeasures - and their implementation - is the System Defect Worksheet, in Appendix E of this Circular. Although not mandatory, its use enables an ASO/ASNCO to more thoroughly document and track HAZLOG entries. This form should be appended to the HAZLOG, and filed IAW AR 25-400-2.

2-4. **Safety Program Elements.** The Safety Officer is responsible for the following safety program elements:

- a. Safety Inspection Program (AR 385-95).
- b. OHR Program (AR 385-95), including related hazard-reporting programs.
- c. Accident Reporting/Investigation Requirements (AR 385-40; DA Pam 385-40 [Army Accident Investigation and Reporting]; Department of Defense Instruction [DODI] 6055.7 [Accident Investigation, Reporting, and Record Keeping]; FAA Order 8020.11B [Aircraft Accident and Incident Notification, Investigation, and Reporting]; AR 95-30 [Participation in a Military or Civil Aircraft Accident Safety Investigation]; AR 385-14 [Transportation Accident Prevention and Emergency Response Involving Conventional Munitions and Explosives]; AR 190-40 [Serious Incident Report]; and AR 75-1 [Malfunctions Involving Ammunition and Explosives {RCS CSGLD-1961 (MIN)}]).
- d. Safety Education Program (AR 385-10).
- e. Safety Awards Program (AR 672-74 [Army Accident Prevention Awards Program]).
- f. SOH Program (NGR 385-10 [Army National Guard Safety and Occupational Health Program]).
- g. Procedures to Monitor other Accident/Mishap Prevention Programs (AR 385-10).
- h. Safety Council Functions (AR 385-95, NGR 385-10).
- i. Safety Administration Requirements (AR 385-10, AR 385-95).

2-5. **Safety Program Management.** Unit/Facility ASOs should develop a matrix of safety- and safety-related program elements and the personnel serving in each capacity relative thereto. See Appendix F of this Circular for a Safety Program Management Matrix.

a. **Safety Element Managers** are defined as those Unit/Facility personnel, appointed on orders, as principally responsible for the administration of a specified aspect of the safety program. They are responsible, and authorized, to administer the functions of that program and should be jointly accountable to their assigned supervisor and the ASO (and ultimately, the Commander) for the accomplishment of those

tasks. Their Officer Evaluation Report (OER)/Noncommissioned Officer Evaluation Report (NCOER)/Performance Appraisal will (also) reflect measurement of performance in this(ese) duties.

b. **Safety Element Coordinators** are the supervisors as referenced in paragraph 2-5a above.

c. In the event of task conflict, or concerns over (time) dedication of the Safety Element Manager, the ASO should first consult with the Safety Element Manager. If an effective resolution is not reached, the ASO should consult with the Safety Element Coordinator. Concerns over disparate dedication to safety- or safety program-related tasks not resolved should be brought before the Safety Council for resolution.

d. While Appendix F speaks in terms of “who” manages specific elements of an effective safety program, Appendix G serves to outline the “what” and “when” components. Use of this Appendix is self-explanatory, is not compulsory, and provides a certain measure of “at a glance” safety program management. Tailoring of the template in Appendix G to meet unique safety program management needs is authorized and encouraged.

e. The Safety program administration/monitoring requirements of AR 385-95, para. 1-6d(6)(k), are implemented by ensuring subject matter specialists have been appointed to monitor techniques and proficiency of personnel in handling weapons; ammunition or explosives; Petroleum, Oil, Lubricants (POL); chemicals; hazardous and toxic materials; and lasers.

f. **Standing Operating Procedures (SOPs).** Commanders shall ensure an SOP is developed for all applicable Unit/Facility functional areas and for all aviation operations executed in the command.

(1) The SOP may, where applicable, be consolidated at the Battalion/Squadron or Regiment/Brigade/Group level.

(2) The systemic risk management process should be integrated in all operational procedures, as opposed to being solely relegated to a Safety Annex.

(3) Appendix H of this Circular denotes those minimum subjects to be addressed in the SOP *if they are applicable*. Although a "one-liner" may be added to the SOP to declare a function is not performed by the Unit/Facility (for example, "Parachute Operations are not performed at this AASF."), there is *no requirement* for the SOP to make mention of a function not authorized in/by the Mission Statement (of the Facility), or METL (of the Unit).

(a) Appendix H also includes recommended areas of topical emphasis within the SOP. Also see paragraph 3-2c of this Circular regarding evaluations/surveys of functional areas of Unit/Facility operations.

(4) The SOP is not required to follow the subject order of AR 385-95, para. 3-3. However, to streamline the survey and inspection process, Units/Facilities are encouraged to apply the "Unit/Facility SOP Page/Paragraph" column in Appendix H, post this (filled-in) Appendix H at the front of the SOP binder, and make the Appendix available to each survey/inspection team.

**2-6. Outline of a Model Safety Program.** The program outlined below is intended to produce the six contributions of which a safety program is capable. In essence, this paragraph answers the question "What does *Right* look like?" with regard to a Unit/Facility safety program. In each case a goal state is specified, followed by a brief task listing (the "what") and suggested tactic(s) (the "how") for task accomplishment.

a. **Mission Protection.** Goal: Key missions have been identified and the potential accident threats to each identified. Control measures have been instituted consistent with cost and mission limitations.

TASK	TACTIC
(1) Identify key missions.	(a) Examine mission statements.
	(b) Consult with staff sections.

(2) Identify potential accident threat to key missions.	(a) Systems analysis.
(3) Control measures.	(a) Hazard control plans developed.
	(b) Control measures monitored.

b. **Damage Control.** Goal: An efficient system for detection of accidental property damage incidents is in place. Damage incidents are being logged and analyzed for their causes. Notifications of these causes are being provided to responsible staff or line sections and corrective action is being monitored.

TASK	TACTIC
(1) Detection of property losses.	(a) Surveillance, work orders, inspection.
(2) Analysis.	(a) Logging and analysis.
(3) Notification.	(a) Normal Staff Procedures.
(4) Monitor progress.	(a) Project review system.

c. **Liability Limitation.** Goal: Existing and potential legal vulnerabilities are determined. Appropriate liability-reducing measures are in place and are being periodically monitored.

TASK	TACTIC
(1) Identify areas of legal vulnerability.	(a) Coordinate with Judge Advocate General (JAG).
(2) Devise program for each area of vulnerability.	(a) Coordinate with JAG.
(3) Implement and control program.	(a) Coordinate with JAG.

d. **Management Improvement.** Goal: All data is being systematically analyzed to determine the management deficiencies causing hazards and accidents. When found, these management problems are verified, documented, and presented to the appropriate staff sections. The safety function is monitoring action taken on the problems.

TASK	TACTIC
(1) Analysis.	(a) Use of systems analysis.
(2) Verification and documentation.	(a) Use of information system.
(3) Development of remedial suggestions.	(a) All available resources; use own or other Army safety expertise, references, etc.
(4) Communication with concerned staff.	(a) Normal staff procedures.
(5) Monitoring and controlling.	(a) Measurable standards program. Special audits.

e. **Injury Prevention.** Goal: Education, motivation, and engineering promeasures and countermeasures have been developed and are being implemented. Measurable standards have been instituted and programs are being monitored.

TASK	TACTIC
(1) Design program in three major areas.	(a) Evaluate existing systems and means for reaching goal.
(2) Establish responsibilities and accountability.	(a) Phase new programs into existing structures.
(3) Monitor performance.	(a) Set standards.

f. **OSHA compliance.** Goal: OSHA requirements are identified and are being coped with on a timely, efficient basis. The compliance effort has been integrated with major safety program elements for maximum effect and efficiency.

TASK	TACTIC
(1) Identify requirements.	(a) Review requirements and list as tasks.
(2) Build systems to achieve compliance.	(a) Systems analysis of each requirement.
(3) Integration with existing requirements.	(a) Planned integration with existing program.

g. While **Preservation of the Environment** is not specifically an aspect of the Safety program, it is often the beneficiary of the activities related to administering such. States/Territories should develop the tasks and tactics necessary to define and emplace an effective Environmental Protection program.

## 2-7. Program Implementation.

a. **Command Accident Prevention Plans (CAPPs)** may be established, at each level of command, to define accident prevention policy and programs, and to denote responsibilities for those programs in the Unit/Facility. The SOP is distinguished from the CAPP, in that it speaks to the "how" element of safety program implementation, and the integration of the safety program with the operational plans. Conversely, CAPPs are developed to define the "what" and "by whom" elements of the Safety program. For Units/Facilities that have published an SOP (emphasis on safety, for purposes of this paragraph), integration of the CAPP within the body of the SOP is acceptable and preferred. For Units/Facilities that have not published an SOP (and are not collocated with the higher headquarters organization of the SOP being used), a stand-alone CAPP is required, that details instructions for implementation of the SOP being used.

(1) For instance, some fixed-wing Flight Detachments utilize the SOP of their parent Company. In this example, since the Detachment has not published a stand-alone SOP, they would be required to publish a CAPP to demonstrate the method of implementation of the Company SOP.

(2) Using the illustration of accident report processing:

(a) A CAPP would direct the *Aircrew* (the "who") to *report an accident or incident* (the "what"), and the *ASO* ("who") to *process the accident report* ("what").

(b) The SOP would then be used to direct the "how" aspects of the accident reporting process: *Which form to use in reporting the accident or incident, where to find the forms in the Facility or Unit, how soon the report has to be submitted to the ASO, whether the ASO has an in-box or just wants the reports slipped under the Safety Office door, how the ASO gets the cost of the accident or incident from the Maintenance Section, etc.* - all "how" aspects of the action of submitting an accident report. To reiterate - incorporation of the "who", "what" and "how" (all) into the SOP is acceptable and preferred, as described above.

b. **Memorandums of Agreement/Understanding (MOAs/MOUs)** between Facilities and their supported Units. MOAs/MOUs should be established to formally establish those services provided by the Facility for each supported Unit. Separate Companies/Troops and Detachments, consolidated/collocated Battalions/Squadrons, and the Headquarters Company/Troop element of higher echelon organizations that use the services of a Support Facility, should each enter into an MOA/MOU with the supporting Facility. An example of an MOA between a Facility and a Unit is provided in Appendix I of this Circular. Elements of such an MOA/MOU should include (as applicable), but not be limited to: 1) Relationship of the MOA/MOU to standing Collective Bargaining Union agreements; 2) clear instructions on when the Unit operates under its own SOP(s), and when members of the Unit operate under the Facility SOP(s); 3) maintenance responsibilities of the Facility (property); 4) security services and access to the Facility; 5) operational services, to include filing of flight plans, weather service, Notices to Airmen (NOTAMs) (reference AR 95-10 [Department of Defense Notice to Airmen {NOTAM} System]; and the Aeronautical Information Manual [AIM]), and publications; 6) AFTP administration (reference NGR 95-210); 7) training management assistance; 8) relationship of Facility Standardization Committee to the Standardization Committee of the Unit; 9) ALSE services, including the storage of pyrotechnics and medical supplies, and deployment considerations of ALSE; 10) POL – dispensing, storage and administration; 11) Safety administration services, including: Safety Council participation; Foreign Object

Debris (or Damage) (FOD) administration; crash rescue; Hazardous Material (HAZMAT) collection and administration; Hazardous Waste Operations (HAZWOPER); Hazard Communications (HAZCOM) program management (reference DODI 6050.5 [DoD Hazard Communication Program]); standown activities; safety awards; HAZLOGs, reports and investigations (including the handoff of accident report processing between the Unit and Facility); safety/accident prevention survey sharing; maintenance and maintenance records; driver training services; and building/facility fire surveillance; 12) governing regulations; and 13) signatories (each MOA/MOU shall be signed by both the Facility Commander and the Unit Commander).

c. **Other Agreements.** Other MOAs/MOUs may be required with/for municipal services (for example, fire departments; airport authorities for snow and ice removal; control towers or airport management offices as part of a pre-accident plan), sister services (for example, ALSE services performed by a nearby Air Force Life Support Office; HAZMAT collection points administered by a sister service operating adjacent to a Unit that does not have the organic capability of temporary collection/storage of HAZMAT). These agreements shall be composed IAW applicable governing regulations (for example, AR 420-90 [Fire and Emergency Services] for fire services), and in consultation with the State/Territory JAG (also see paragraph 4-16b of this Circular). See Appendix J of this Circular for a sample format of such an Agreement.

(1) Units and Facilities should enter into MOUs/MOAs with selected Medical facilities capable of drawing/collecting post-mishap blood and urine samples, and either processing them for specific pathologies/toxicologies or shipping them to the Armed Forces Institute of Pathology (AFIP). These Medical facilities should be selected for each geographical area in which operations may be expected. These MOUs/MOAs should be drawn-up with the assistance of the cognizant JAG, and include chain-of-custody and billing criteria (also see paragraph 3-7c(1) of this Circular). SAAOs are authorized to combine these agreements at the State/Territory level, and AGs may combine these agreements for Air *and* Army Guard organizations.

(2) MOUs/MOAs should also be emplaced with police and other potential emergency responding organizations. These MOUs/MOAs should include references to site security and forensic assistance. For example, coordination should be made with the local Medical Examiner's (ME's) office for their expertise in forensic photography and pathology.

### Chapter 3

**Accident, Incident, and Mishap Prevention.** This chapter details the processes of accident, incident, and mishap prevention, including: Instructions for the administration of Safety Perceptions Surveys, and Aviation Accident Prevention Surveys; Safety Councils; Aviation Safety Meetings and Briefings; Standowns; Aviation Mishap Prevention Bulletin Boards; the Aviation Medicine Program; Safety Literature; Aviation Mishap Reporting and Investigations; and a defined relationship to the (larger) ARNG SOH program.

3-1. **Safety Perceptions Surveys.** All ARNG Aviation Units and Facilities should be subjected to a Safety Perceptions Survey at least biennially. As discussed in Appendix B, the Safety Perceptions Survey serves to measure the tide of influence of personnel. Within the science of psychology, the focus is to determine what pressures and tolls are being experienced within a given organization, before they are manifested in maintenance and logistics escapes, or worse yet – accidents. Safety Perceptions Surveys use a standardized form (Appendix K of this Circular) to safeguard against degradation into a “who will have the next accident?” or “who is the high-risk aviator?” forum. More specifically, Commanders are prohibited from using surveys of any sort to isolate individuals. By focusing on issues, rather than personalities (or personnel), areas of concern within the command will be more than readily apparent. Safety Perceptions surveys, as defined in this Circular, are not subject to the requirements of AR 600-46 (Attitude and Opinion Survey Program), nor DA Pam 600-69 (Unit Climate Profile Commander’s Handbook), since the nature of the survey falls outside the scope of that/those defined in either publication.

**Note:** An excellent reference (textbook) that deals specifically with rogue behavior is Darker Shades of Blue, © 1999, written by Anthony T. Kern, and published by the McGraw-Hill Companies. This book is available from many commercial sources, and through most local public and military libraries, and gives the reader clear definitions and recommendations to effectively deal with rogue behavior.

**a. Administration of the Survey.**

(1) At least 60 percent of the assigned/attached personnel of the Unit/Facility must have responded for the survey to be considered statistically valid. In instances where a given percentage of the Unit/Facility is deployed, the number attached to the Unit/Facility is reduced correspondingly. However, short-term absences may be addressed by circulating the survey over two or three drill periods (for M-day personnel) prior to the end of the biennial period.

(2) Approximately three months before the end of the biennial period, the Unit/Facility ASO should copy and distribute enough surveys for each member to receive one. The instructions are at the header of the form. Once completed, the forms are returned to the ASO, who compiles the data, and introduces the results at the next scheduled Unit/Facility Safety Council meeting. The Safety Council should consider the sentiments expressed in the compiled data, and the Safety Council Chairperson direct necessary adjustments to the Training Calendar, SOP, and other mechanisms of administration of the safety program.

**(3) Suggested Formatting of Data:**

(a) Year-over-year comparisons of change between responses to various questions are invaluable to determine how effective past changes were.

(b) Breakout of responses by demographic (for example, Companies within a Battalion, or different ranks within the organization) serve to detail how austerity is being weathered. For example, in lean budget times, the NCO corps scores are typically much lower than those of the Commissioned Officers; and high Operations Tempos (OPTEMPOs) often result in the junior Enlisted ranks operating without having been informed of how they fit into the larger picture.

(c) “Best of” and “worst of” categories, in terms of what questions yielded the highest or lowest scores, helps expedite review by a Safety Council. Also known as “three up and three down”, this manner of translating the numbers into simpler bullets helps lend focus to adjustments warranted in the safety program.

(d) Make recommendations. The ASO should submit recommendations with the Safety Perceptions Survey data to the Safety Council. This gives the ASO a unique opportunity to consider innovations not otherwise apparent or justified, and use sentiments that may be below the surface of the Unit/Facility to arrest the trend before it becomes a statistic.

(4) ASOs of ARNG Facilities and Battalions/Squadrons should transmit only the total average of all 32 questions, of all the surveys returned to them, to NGB-AVS-SA. This single-number submission may be by letter, memorandum, email, or facsimile transmission, and no later than the end of the biennial period (formatted example: “Safety Perceptions Survey results for the AASF for Utah, UIC WYQJ99, FY 02-03: 4.14. Total Facility population surveyed was at least 60 percent. POC for this survey is CW5 Don Jacobson, DSN 766-3487.”).

(5) Completed original Safety Perceptions Survey forms will be retained IAW AR 25-400-2, as would AAPSSs.

**3-2. Aviation Accident Prevention Survey (AAPS).**

**a. Purpose of the Survey.** The AAPS is an effective means of evaluating the condition of key components of an aviation organization’s safety program. Personnel conducting the survey will be thoroughly familiar with staff procedures so that recommendations may be directed to the proper agencies



(reference FM 101-5 [Staff Organization and Operations]). Follow-up checks will be made to ensure recommendations on previous surveys were implemented; new/potential problem areas have not developed since the last survey; and potential problem areas overlooked before, or considered relatively unimportant at the time, might be reexamined in view of more current information. The survey is merely a question and answer checklist that can serve as a guide for commanders, supervisors, and their staffs to increase awareness of potential problem areas within the command. Considering this, the survey will provide a foundation on which to build an effective accident prevention program. And, when integrated into the larger Safety Program, an accurate safety posture assessment of the Unit/Facility is possible.

b. The AAPS *is not* synonymous with the ASAAPS, as defined in NGR 385-5. Conversely, the ASAAPS is one type of AAPS – one that embodies the Facility-to-Facility exchange of information. AAPs, on a larger scale and as described above, serve to measure compliance with the various regulations and laws enacted to preclude the next accident.

c. **Functional areas of the Unit/Facility to be surveyed**, as applicable, include: 1) Fire Prevention; 2) ALSE; 3) Aviation Medicine; 4) Hazard Awareness (for example, wires, obstructions); 5) Mission Risk Management Program; 6) Tactical Safety (for Units); 7) PC/Selection Committee (for example, Standardization Committee); 8) Crew Endurance; 9) Pre-Accident Plan; 10) Aerial Gunnery Range Safety Program; 11) Shops Safety Program; 12) Equipment Improvement Recommendation (EIR)/QDR; 13) Lifting Device Inspection and Testing Program; 14) OHRs and related hazard reporting programs; 15) Publications program and utilization of DA Forms 2028; 16) Army Oil Analysis Program (AOAP); 17) Tear Down Analysis Program; 18) GSE Preventive Maintenance; 19) FOD; 20) POL Safety for Storage and Refueling Operations (including POL shelf-life requirements implementation); 21) Survival Training; 22) Training Area Route Structure; 23) Airspace Management; 24) Hearing Conservation Program; 25) HAZCOM Program; 26) Hazardous Waste Management Program; 27) Confined Space Entry Program; 28) Respirator Protection Program; 29) Drivers Training, Testing, and Licensing; 30) Air Traffic Services (ATS)/Air Traffic Control (ATC) (when applicable); and 31) Air Force Weather (when applicable).

**Note:** In determining the applicable functional areas of a Unit/Facility to be surveyed, see paragraph 2-5f, and Appendix H of this Circular. Those functions/functional areas that are not inherent to/performed by the Unit/Facility being surveyed are not subject to the requirements of paragraph 3-2c above (for example, a Fixed-Wing Detachment would likely not perform Aerial Gunnery. As such, their SOP would not reflect topics relative to Aerial Gunnery, and the Detachment would not be subject[ed] to a survey of this functional area).

d. **Frequency.**

(1) For Facilities, and Units that have deployed more than 180 days in a given fiscal year, AAPs will be conducted semiannually.

(2) For ARNG Units principally staffed by M-day personnel that have not deployed more than 180 days in a given fiscal year, AAPs will be conducted at least annually.

**Note:** Commanders/ASOs may utilize the Safety Posture Assessment and Report (SPAR - see Appendix B of this Circular) to determine whether an increase in the AAP frequency is warranted.

e. **Publications That May be Used to Conduct AAPs.** The ASAAPS Checklist, as noted in NGR 385-5, is an excellent accident prevention survey, and satisfies the requirement for such a survey. The ARMS Checklist, as published by U.S. Army Forces Command (FORSCOM) provides a very broad evaluation of the employment of the aviation resources within a command. While the use of the *entire ARMS Checklist* fulfills the requirement for a survey, care must be exercised in deciding which portions of the checklist may not apply. Likewise the Guide to Aviation Resources Management for Aircraft Mishap Prevention, as published by the U.S. Army Aviation Branch Safety Office (ABSO). Other checklists, such as the Standard Army Occupational Safety and Health Inspection (SAOSHI) Checklist, published by USASC, may not be broad enough in their applications. For OSAA/OSACOM activities, the Command Inspection Program (CIP) Checklist, as administered by applicable OSAA/OSACOM directives, (also) satisfies this

requirement. Questions regarding suitability of a particular checklist to fulfil the requirement for an AAPS should be directed to NGB-AVS-SA at DSN 327-7735/-9745 or Commercial 703 607-7735/-9745.

f. **Conduct of the Survey.** AAPSs (also) satisfy the requirements of annual workplace inspections, performed IAW 29 CFR 1960.26(b), and other applicable regulations. As such, they will be conducted by ARNG personnel who have received formal training in workplace hazard recognition and are qualified to identify, document, and analyze the significance of hazards discovered during the inspection (this does not, however, imply only an Industrial Hygienist may evaluate questions gauging compliance with publications such as Technical Bulletin (TB) Med 503 [The Army Industrial Hygiene Program]). Such inspections shall also entail the provisions of AR 420-90, para. 6-5, regardless of ownership of the property upon/in which ARNG personnel are working.

(1) Certain aspects of the AAPS are best conducted by those with specific expertise in a given subject. For instance, maintenance-related subjects may be better gauged by the AMO or Maintenance NCO in charge (NCOIC). As such, ASOs/ASNCOs should utilize those other personnel within the Unit/Facility to the greatest extent possible in conducting an AAPS. Subjects not delegated should be equally divided between the ASO and ASNCO. Units with subordinate organizations (for example, Battalions with collocated subordinate Companies) should divide the remaining subjects equally, to the greatest extent possible, among the subordinate Unit personnel (through the subordinate Commanders). Subordinate Unit Commanders should ensure timely tasking to ASOs, ASNCOs or other appropriate Unit personnel. This shared approach to the AAPS ensures: a) An accurate view of the Unit/Facility utilizing the talents of those with the highest level of expertise in a given functional area; and b) minimal impact on any single person or organization in administration of the AAPS. Some options to consider:

(a) Units/Facilities are authorized and encouraged to take a “snapshot” approach to the AAPS, in dedicating personnel and resources necessary to conduct the AAPS in as minimal a calendar period as possible – much as when FORSCOM conducts an ARMS. This approach to the AAPS often yields the most accurate results in terms of identifying systemic defects, and typically affords the best opportunity to accurately evaluate the effectiveness of an implemented corrective action.

(b) Conversely, to further minimize the impact of the AAPS on individuals and organizations, the AAPS may be administered over as wide a calendar period as practicable. For instance, for a Unit with 12 drills in a year (including annual training [AT]), the AAPS may be divided into twelfths, and one-twelfth conducted each drill/AT. When coupled with the shared approach in paragraph 3-2f(1) (above), each person participating in the AAPS may be tasked with answering but a few questions each drill. While this approach to the survey may lower its workload impact on the organization, it may yield sub-optimal results. Systems defects may be *treated* on-the-spot, and overlooked and not *corrected* as a potential chronic condition. For example, FOD cans noted as full may be immediately emptied by a Maintenance Supervisor, but this on-the-spot correction masks the systemic defect of the SOP not providing the permanent (systemic) remedy as to who is supposed to empty the FOD cans, where, and how often.

**Note:** Commanders and ASOs/ASNCOs (and Safety Councils) must weigh resources available, and Unit/Facility requirements, in determining the best approach to conduct the AAPS.

(c) Additionally, every other AAPS should be conducted by a higher headquarters or outside surveying/inspecting organization. For instance, in the first semiannual period of each fiscal year, an activated Battalion should be tasked to survey its subordinate Companies; and the Companies administer their own AAPS in the second semiannual period. Units/Facilities taking advantage of this latitude (again) halve their AAPS workload.

**Note:** Considering Units (see paragraph 3-2d(2) of this Circular) are only obligated to an annual AAPS – and the existing schedules of ARMS and other like-programs – it is unlikely a Unit ASO would be tasked to perform their own AAPS.

g. **Evaluating Surveys.** After an AAPS has been completed, it must be evaluated to identify areas that need improvement. The Safety Council will convene to discuss information obtained from the AAPS. This will provide a basis for the following:

(1) **List of Hazardous Conditions.** Emphasis will be placed on eliminating hazards. Factual and objective presentations of this information to the Safety Council encourages cooperation from all members. To help the Safety Council set priorities, the ASO shall analyze hazards to assess their risk potential in terms of hazard severity and accident probability (see Appendix D of this Circular).

(2) **Analysis of Hazards.** Commanders and supervisors will ensure systems (see Chapter 2 of this Circular) are analyzed to identify and control hazards in aviation systems, facilities, and operations. Reference AR 385-16, DA Pam 385-16, and FMs 100-14 and 3-100.12. The use of promeasures, or early detection, versus post-accident techniques (countermeasures) will be emphasized.

(3) **Promeasures, Countermeasures, and Priorities.** The most potentially effective promeasures and countermeasures and available resources must be applied against “worst first” hazards. In evaluating and ranking hazard priorities, potential consequences must be considered. These are probable degrees of injury, occupational illness, damage, mission, and legal and statutory implications (reference AR 385-10, and FMs 100-14 and 3-100.12, regarding assignment of Risk Assessment Codes [RACs]).

### 3-3. Safety Councils.

a. **Safety Council Meetings.** The ASO (Safety Council Recorder) should publish an agenda prior to each meeting of the Safety Council, and ensure distribution to each member in sufficient time to allow timely review of, and preparation for, the meeting. After the meeting, the minutes – sent to each Safety Council member and the cognizant higher headquarters of the Safety Council – shall contain the items discussed and the member assigned primary responsibility (and corresponding suspense) for each item. Additionally, (at least a summary of) the HAZLOG of the Unit/Facility should be included in the agenda and shall be included in the minutes. At each meeting, the minutes of the prior meeting will be summarized. Each Safety Council member assigned a task shall report progress and give estimated completion dates. These items will be reviewed at each meeting. HAZLOG notations to the Safety Council minutes shall not reflect closure until substantiation of a permanent remedy is evident (that is, a HAZLOG item may not be “closed” merely because it was elevated for action to a higher or adjacent headquarters. Nor may an item be closed until the correction has been verified as having been correctly implemented, and the permanent remedy found to be satisfactorily implemented).

b. Aviation Safety Councils (ASCs) at Unit (Detachment/Company/Troop) level and higher will be established as part of the aviation accident prevention effort (also see paragraph 3-3g below regarding combining criteria for Safety Councils).

c. Safety Council membership at the State/Territory level shall be IAW NGR 385-10.

d. Safety Councils at the MACOM, and State/Territory level and below will meet quarterly, and at the call of the Chair, to:

(1) Review the accident and occupational illness experience and prevention programs of the command or activity;

(2) review reports of fatal or other serious accidents and occupational illnesses, not necessarily within the command; and

(3) review employee safety suggestions to improve work conditions and increase efficiency.

e. Membership below State/Territory level, for those organizations with aviation assets, shall consist of those members in AR 385-95, para. 3-4. Also see paragraph 3-3g below.

f. AASFs, and like-aviation Facilities/activities whose primary population are Technicians (rather than Enlisted), may combine their Safety Councils. Membership shall reflect the requirements of AR 385-95, para. 3-4, by composing the Safety Council as follows: 1) Facility Commander (Chair); 2) Operations Officer/Senior Supervisory Instructor Pilot; 3) Senior Standardization Instructor Pilot (SP) of each aircraft flown at the Facility; 4) ASO (Recorder); 5) AMO; 6) Aviation Life Support System Manager; 7) Flight Surgeon; 8) Senior Facility NCO/Technician; 9) ASNCO; 10) Senior Operations NCO/Technician; 11) Senior Facility Maintenance NCO/Technician; 12) Senior Aviation Life Support Systems NCO/Technician; 13) Facility Fire Marshall (reference AR 420-90, para. 5-5)/Building Manager (reference AR 420-90, para. 6-2); 14) Representative(s) of the applicable Collective Bargaining Union; 15) The Commander and ASO of each Unit supported by the Facility; 16) Representative(s) of the applicable civilian contract (aircraft) maintenance organization(s); and 17) others, as appointed by the Chair.

**Note:** While the membership of the Facility Safety Council may include certain M-day personnel (for example, the M-day Commanders and ASOs of the Units supported by the Facility), their attendance is *not* mandated. However, these personnel must be *invited* to each meeting of the Facility Safety Council. Inclusion of these M-day personnel – and those other selected members of the Units supported by the Facility – ensures the smooth and timely flow of safety-related information between organizations. For M-day personnel not attending the meetings, the Facility Safety Council agenda (as/when published) serves as a “heads-up” for those issues expected to be discussed, and the minutes serve as evidence their concerns were treated by the Council. Also, Facility Commanders may exercise discretion when composing Orders for the Facility Safety Council to ensure the various functions or disciplines are represented. Minor deviation in Facility Safety Council membership is authorized to align the *intent* of paragraph 3-3f above, and its *execution* within each Facility.

g. Units may combine their Command and Enlisted Safety Councils as follows:

(1) Units below the size of Company or Troop may combine Command and Enlisted Safety Councils to form a single, combined ASC under authority of AR 385-95, para. 1-6a(11). Membership of such a Council shall meet the membership requirements of AR 385-95, paragraphs 3-4b and 3-4d.

(2) Units the size of Company or Troop – or higher echelon organizations – may combine Command and Enlisted Safety Councils to form a combined ASC under authority of AR 385-10, para. 2-1k(4); and NGR 385-10, para. 1-6c.

h. Units are also authorized conduct Command and Enlisted Safety Councils concomitantly (that is, all members present at the same meeting from both councils) without (actually) combining the councils. However, unless the Unit has formally combined the councils (by publishing an appointment order for the Combined Aviation Safety Council), separate agendas should still be prepared for the Command and Enlisted Safety Councils; and separate minutes shall (still) be prepared for the Command and Enlisted Safety Councils. For combined Councils, only a single agenda would be warranted, and a single (set of) minutes would be required.

**Note:** The decision as whether to maintain a separate ESC and CSC, or to combine the safety councils, is a local Command discretion. Also, in the context of Safety Councils, the terms *Consolidated* and *Combined* are not synonymous. For purposes of this Circular: *Consolidation* speaks to the latitude afforded a Battalion/Squadron to conduct a single Safety Council at that organizational level without the additional requirement for (subordinate) Company/Troop-level Safety Councils; and *Combination* speaks to latitude afforded ARNG Units at all levels (under the various authorities) to meld the memberships of the ESC and CSC.

i. The agenda of each Safety Council meeting should, at a minimum, include a review of organization hazard-tracking log and recent accidents, address the effectiveness of risk-control options, and present an opportunity for decision-making on proposed risk-control options for newly-identified hazards. The Recorder shall organize the meeting to allow the Chair to select the best course of action (COA) and tasking of the appropriate staff member/subordinate Commander with control option action.

(1) The ASO (Recorder) should prepare (and sign) the agenda for the Safety Council no later than (NLT) ten calendar days prior to the meeting; and shall forward copies of the Safety Council Minutes, as discussed in paragraphs 1-6(k) and 3-3i(2), NLT 30 calendar days following the Safety Council meeting to each council member and the higher headquarters.

(2) For other than combined Safety Councils: The ASNCO (Recorder) should prepare (and sign) the agenda for the ESC NLT ten calendar days prior to the meeting; and shall forward copies of the minutes NLT 30 calendar days following the Safety Council meeting to each council member and the higher headquarters.

j. Council minutes shall be specific in describing the control option, who is responsible for implementing the control option, and the date by which the Chair expects action (suspense). The Chair will (approve and) sign the Council minutes.

k. In addition to those in AR 385-95, the general duties of a CSC are to:

(1) Promote the AAPP at Unit/Facility and higher levels through the exchange of ideas, discussions, and reports of flight hazards or deficiencies noted;

(2) resolve all problems by command action. Problems that cannot be resolved at the level discovered will be elevated to the next higher command (Safety Council) for corrective action; and

(3) monitor and review the aviation accident prevention program, IAW AR 385-95.

**Note:** The functions of the ALSE Steering Council (see paragraph 1-6r(5)) may be wholly incorporated in/performed by the Safety Council. The functions of the FOD Prevention Quarterly meeting (see paragraph 5-4a(1)), which is no longer required (but is still authorized), should be wholly incorporated in/performed by the Safety Council.

1. Relevant Safety matters discussed during the Safety Council meeting shall be presented to Unit/Facility members during safety meetings and briefings.

### 3-4. Aviation Safety Meetings and Briefings.

a. **Safety Briefings** for Units principally staffed by M-day personnel not deployed longer than 180 days in a fiscal year will be held at least quarterly; prior to undertaking AT; and prior to any deployment, reemployment, or other activity that a timely reminder of the relative concepts of safety would be warranted. Safety briefings for Facilities, and those Units deployed longer than 180 days in a given fiscal year will be held monthly. Briefings will be scheduled on the Unit/Facility training calendar (typically on a Yearly Training Calendar [YTC] or a tracking matrix that provides the Commander, Operations Officer, and Safety Officer at-a-glance identification of subjects and dates of scheduled and conducted briefings), and forecasted for the succeeding and current fiscal year(s) (FYs). Subjects will be delineated for Aircrew, and Aviation Maintenance and Support Safety topics from Tables 3-1 and 3-2 below. As available, briefings should include relevant safety videos and films produced by the ARNG MultiMedia Branch (for example, SafeFlight videos [see paragraph 7-2c]). Responsibility for presentation/instruction should be equally divided between the ASO and ASNCO. All Unit/Facility members shall participate in applicable scheduled briefings (that is, Aviation Maintenance and Support personnel in those topics delineated in Table 3-1, and Aircrewmembers in those topics delineated in Table 3-2). Also see paragraph 3-4a(3) of this Circular regarding make-up training.

**Note:** Commanders/ASOs may utilize the SPAR in determining whether an increased frequency of Safety Briefings is warranted.

(1) Preparation for safety briefings shall include a course outline/POI. The level of detail shall be dictated by the needs of the audience, capabilities of the briefer, and time available for the briefing. While many Units take advantage of the *captive audience* immediately following a first formation to present the

safety briefing, ASOs/ASNCOs should be prepared to (also) take advantage of opportunities that may surface during a drill to present subjects in an expanded manner. State/Territory Safety Managers typically enjoy a well-stocked video library to augment safety briefings. Additionally, a catalogue of POIs is available from NGB-AVS-SA at <http://www.arng.army.mil>; and reference the USASC website at <http://www.safetyinfo.com/safetyinfo/html/guests/aa-g-indexes/talks.htm>. Also see paragraph 1-6q(12) **Note** of this Circular regarding Aeromedical subject POIs.

(2) Aviation Maintenance and Support Safety Briefing topics, and Aircrew Safety Briefing topics may be combined in the same briefing. Audiences shall include those who influence and affect the aviation operation, and not simply Aviators and Crewchiefs. Likewise, audiences shall also include all (other) members of the command, and should include timely additions beyond those mandatory subjects noted in Tables 3-1 and 3-2. However, this does not imply Aircrews are mandated to attend topics specific to Aviation Maintenance and Support personnel; and vice-versa (for example, Battalion Cooks would likely benefit very little from an Illusions of Flight, or ALSE, briefing).

**Note:** Tables 3-1 and 3-2 do not include those other mandatory training/briefing topics (for example, Geneva Convention Briefings), those with a frequency less often than annually (for example, biennially), those required for new members of the Unit/Facility, or as required by the various other publications.

AVIATION MAINTENANCE AND SUPPORT SAFETY BRIEFING TOPICS		
BRIEFING TOPIC	FREQUENCY	REFERENCE
Ground Handling	Annual	Technical Bulletin (TB) 43-0142 (Safety Inspection and Testing of Lifting Devices); TM 1-1500-204-23-1 (Aviation Unit Maintenance [AVUM] and Aviation Intermediate Maintenance [AVIM] Manual for General Aircraft Maintenance [General Maintenance and Practices] Volume 1); TM 1-1500-204-23-9 (Aviation Unit Maintenance [AVUM] and Aviation Intermediate Maintenance [AVIM] Manual for General Aircraft Maintenance [Tools and Ground Support Equipment] Volume 9); AC 00-34A (Aircraft Ground Handling and Servicing)
FOD Mishaps Review and Prevention	Quarterly	AR 385-95; AR 385-10; AC 150/5380-5B (Debris Hazards at Civil Airports); AC 33-1B (Turbine Engine Foreign Object Ingestion and Rotor Blade Containment Type Certification Procedures)
Activation of Pre-Accident Plan	Annual	AR 385-95; NG CIR 385-95
Fire Extinguisher Operation	Annual	AR 420-90; National Fire Protection Association (NFPA) 10 (Standard for Portable Fire Extinguishers); TB 5-4200-200-10 (Hand Portable Fire Extinguishers Approved for Users); TM 5-315 (Firefighting and Rescue Procedures in Theaters of Operation); FM 5-415 (Fire-Fighting Operations); AC 20-42C (Hand Fire Extinguishers for Use in Aircraft)
Laser/Radiation Hazards	Annual	TM 55-1500-335-23 (Nondestructive Inspection Methods); DA Pam 40-18 (Personnel Dosimetry Guidance and Dose Recording Procedures for Personnel Occupationally Exposed to Ionizing Radiation); AR 11-9 (The Army Radiation Safety Program); DA Pam 40-506 (The Army Vision Conservation and Readiness Program); AC 43-3 (Nondestructive Testing in Aircraft); AC 43-7 (Ultrasonic Testing for Aircraft); AC 20-68B (Recommended Radiation Safety Precautions for Ground Operation of Airborne Weather Radar); TB Med 524 (Control of Hazards to Health from Laser Radiation); FM 4-02.17 (Preventive Medicine Services); FM 8-50 (Prevention and Medical Management of Laser Injuries); AC 20-123 (Avoiding or Minimizing Encounters with Aircraft Equipped with Depleted Uranium Balance Weights During Accident Investigations)
Equipment Log Book Entries	Annual	DA Pam 738-751
EIR/QDR and Publications Improvement (Use of DA Forms 2028)	Annual	DA Pam 738-751; AR 702-7-1 (Reporting of Product Quality Deficiencies Within the U.S. Army); AR 702-17 (Quality Improvement and Product Nonconformance

		Reduction); AR 702-7 (Product Quality Deficiency Report Program); AR 25-30
Oil Analysis Program	Annual	TB 43-0106 (Aeronautical Equipment Army Oil Analysis Program); AR 700-132 (Joint Oil Analysis Program [JOAP]); AR 750-1 (Army Materiel Maintenance Policy and Retail Maintenance Operations); FM 4-30.3 (Maintenance Operations and Procedures)
HAZMAT, HAZWOPER	Annual	29 CFR 1910.120; AR 385-10; AR 200-1 (Environmental Protection and Enhancement); AR 200-2 (Environmental Effects of Army Actions); AR 700-141 (Hazardous Materials Information System (HMIS) (RCS DD-FM&P (A, Q, &AR) 1486)); FM 3-100.4 (Environmental Considerations in Military Operations); FM 4-02.17
HAZCOM	Annual	29 CFR 1910.1200; DODI 6050.5-W (Department of Defense Federal Hazard Communication Training Program); DODI 6050.5; FM 4-02.17
Bloodborne Pathogens	Annual	29 CFR 1910.1030; United States Army Environmental Hygiene Agency (USEHA) Technical Guide (TG) No. 190 (Guide to Managing Occupational Exposure to Bloodborne Pathogens); FM 4-02.17
Means of Egress	Annual	29 CFR 1910.38(a)(5)
Stress and Fatigue	Annual	AR 385-95; FM 3-04.301 (Aeromedical Training for Flight Personnel); DA Pam 600-63-10 (Stress Management); DA Pam 600-70 (Guide to the Prevention of Suicide and Self-Destructive Behavior); FM 22-51 (Leaders' Manual for Combat Stress Control.)
Noise in Aviation	Annual	AR 385-95; TM 5-805-4 (Noise and Vibration Control); FM 3-04.301; AC 91-35 (Noise, Hearing Damage, and Fatigue in General Aviation Pilots); AC 36-2C (Measured or Estimated [Uncertificated] Airplane Noise Levels); AC 36-3G (Estimated Airplane Noise Levels in A-Weighted Decibels); DA Pam 40-501 (Hearing Conservation Program); FM 4-02.17
First Aid	Annual	DA Pam 40-13 (Training in First Aid and Emergency Medical Treatment); FM 21-11 (First Aid for Soldiers)
POL handling <sup>(1)</sup>	Semiannual	FM 10-67-1 (Concepts and Equipment of Petroleum Operations); AR 750-1; FM 4-30.3; AC 20-125 (Water in Aviation Fuels); AC 20-43C (Aircraft Fuel Control); FM 1-300
Protective Equipment (including fall and respiratory protection)	Annual	NG CIR 385-95; AR 385-10; FM 4-02.17; AR 11-34 (The Army Respiratory Protection Program); TB Med 502 (Occupational and Environmental Health Respiratory Protection Program)
Analysis of Recent Mishaps	Annual	AR 385-95
Summer Safety (Hot Weather Injury Prevention)	Annual	AR 385-95; FM 21-11; TB Med 507 (Prevention, Treatment and Control of Heat Injury); FM 90-3, (Desert Operations); FM 4-02.17
Winter Safety (Cold Weather Injury Prevention)	Annual	AR 385-95; FM 21-11; FM 31-70 (Basic Cold Weather Manual); TB Med 81 (Cold Injury); AC 91-13C (Cold Weather Operation of Aircraft); AC 150/5200-30A (Airport Winter Safety and Operations); FM 4-02.17
Emergency Eyewash (Chemical Splashes)	Annual	29 CFR 1910.151; DA Pam 40-506; American National Standards Institute (ANSI) Z358.1 (American National Standard for Emergency Eyewash and Shower Equipment)
OHR Importance and Promoting	Annual	AR 385-95; NG CIR 385-95
Issues Discussed at Safety Council	Quarterly	AR 385-95; NG CIR 385-95
Risk Management	Annually <sup>(2)</sup>	FM 100-14; FM 3-100.12

<sup>(1)</sup>See paragraph 5-7c of this Circular.

<sup>(2)</sup>and prior to each External Evaluation (EXEVAL), Combat Training Center (CTC) or Overseas Deployment Training (ODT) deployment or reemployment.

**Aviation Maintenance and Support Safety Briefing Topics**  
**Table 3-1**

AIRCREW SAFETY BRIEFING TOPICS		
BRIEFING TOPIC	FREQUENCY	REFERENCE
Equipment Log Book Entries	Annual	DA Pam 738-751

EIR/QDR and Publications Improvement (Use of DA Forms 2028)	Annual	DA Pam 738-751; AR 702-7-1; AR 702-17; AR 702-7; AR 25-30
Oil Analysis Program	Annual	TB 43-0106; AR 700-132; AR 750-1; FM 4-30.3
Maintenance Error Related Mishaps	Annual	AR 385-95
Ground Handling	Annual	TM 1-1500-204-23-1; -9; TB 43-0142; AC 00-34A
Bloodborne Pathogens	Annual	29 CFR 1910.1030; TG 190; FM 4-02.17
Means of Egress	Annual	29 CFR 1910.38(a)(5)
HAZMAT, HAZWOPER	Annual	29 CFR 1910.120; AR 385-10; AR 200-1; AR 200-2; AC 121-21B (Information Guide for Training Programs and Manual Requirements in the Air Transportation of Hazardous Materials); AC 121-27 (Guide for Air Carriers, Freight Forwarders, and Shippers in Obtaining Information Dealing with the Transportation of Hazardous Materials by Air); AR 700-141; FM 3-100.4; FM 4-02.17
HAZCOM	Annual	29 CFR 1910.1200; DODI 6050.5-W; DODI 6050.5; FM 4-02.17
Health Maintenance <sup>(2)</sup>	Annual	AR 385-95; DA Pam 600-63-6 (Nutrition and Weight Control); DA Pam 600-63-5 (Physical Conditioning); DA Pam 600-63-4 (Individual Assessment); AR 600-63 (Army Health Promotion); FM 4-02.17
First Aid	Annual	DA Pam 40-13; FM 21-11
Laser/Radiation Hazards	Annual	DA Pam 40-18; AR 11-9; DA Pam 40-506; TB Med 524; AC 20-68B; AC 120-61 (Crewmember Training on In-Flight Radiation Exposure); FM 4-02.17; FM 8-50; AC 20-123
POL handling	Semiannual	FM 10-67-1; AR 750-1; FM 1-300
Noise in Aviation	Annual	AR 385-95; TM 5-805-4; FM 3-04.301; AC 91-35; AC 36-2C; AC 36-3G; AC 20-133 (Cockpit Noise and Speech Interference Between Crewmembers); DA Pam 40-501; FM 4-02.17
Vision <sup>(2)</sup>	Annual	AR 385-95; FM 3-04.301; DA Pam 40-506; FM 4-02.17
Altitude Physiology <sup>(2)</sup>	Annual	AR 385-95; FM 3-04.301; TB Med 288 (Medical Problems of Man at High Terrestrial Elevations)
Illusions of Flight <sup>(2)</sup>	Annual	AR 385-95; FM 3-04.301; AC 60-4A (Pilot's Spatial Disorientation)
Spatial Disorientation <sup>(2)</sup>	Annual	AR 385-95; FM 3-04.301; AC 60-4A
Stress and Fatigue <sup>(2)</sup>	Annual	AR 385-95; FM 3-04.301; DA Pam 600-63-10; DA Pam 600-70; FM 22-51; FM 4-02.17
Protective Equipment (including fall protection)	Annual	NG CIR 385-95; AR 385-10; FM 4-02.17
Analysis of Recent Mishaps	Annual	AR 385-95; NG CIR 385-95
OHR Importance and Promotion	Annual	AR 385-95; NG CIR 385-95
Winter Safety (Cold Weather Injury Prevention)	Annual	AR 385-95; FM 21-11; FM 31-70; TB Med 81; AC 91-13C; FM 4-02.17
Summer Safety (Hot Weather Injury Prevention)	Annual	AR 385-95; FM 21-11; TB Med 507; FM 90-3; FM 4-02.17
Weather <sup>(3)</sup>	Annual	NG CIR 385-95; NGR 95-210; FM 1-230 (Meteorology for Army Aviators); FM 34-81 (Weather Support for Army Tactical Operations); AFM; Air Force Manual (AFMAN) 15-111 (Surface Weather Observations); AFMAN 15-125 (Weather Station Operations); AR 115-10 (Weather Support for the U.S. Army); AC 00-6A (Aviation Weather); AC 00-24B (Thunderstorms); AC 120-50A (Guidelines for Operational Approval of Windshear Training Programs); AC 00-54 (Pilot Windshear Guide); AC 00-45E (Aviation Weather Services)
ALSE	Annual	AR 95-1, FM 1-400, FM 1-508 (Maintaining Aviation Life Support Equipment); AC 21-22 (Injury Criteria for Human Exposure to Impact); AC 120-47 (Survival Equipment for Use in Overwater Operations); AC 91-58A (Use of Pyrotechnic Visual Distress Signaling Devices in Aviation)
Survival	Annual	FM 1-508; FM 1-400; FM 21-76 (Survival); AR 350-30 (Code of Conduct, Survival, Evasion, Resistance, and Escape [SERE] Training); AC 120-47; AC 91-58A
Fratricide	Annual	FM 1-140 (Helicopter Gunnery)
Emergency Eyewash (Chemical Splashes)	Annual	29 CFR 1910.151, DA Pam 40-506, ANSI Z358.1
FOD Mishaps Review and Prevention	Quarterly	AR 385-95; AC 150/5380-5B; NG CIR 385-95
Review Issues Discussed at Safety Councils	Quarterly	AR 385-95; NG CIR 385-95



Risk Management	Annually <sup>(1)</sup>	FM 100-14; FM 3-100.12
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<sup>(1)</sup> and prior to each EXEVAL, CTC or ODT deployment or reemployment.

<sup>(2)</sup> denotes Aeromedical Continuation Training subject, typically (but not necessarily) presented by the Flight Surgeon. See paragraphs 1-6q(12), 3-5c and 3-5e(3)(a). Additional Special Aeromedical Training requirements apply IAW FM 3-04.301, paragraphs 1-10 and 1-11.

<sup>(3)</sup> see paragraph 6-1d of this Circular.

### Aircrew Safety Briefing Topics

Table 3-2

(3) **Records of the training** will include the course outline/POI and a roster of attendees. Such records shall be retained IAW AR 25-400-2. Make-up attendance at Safety Briefings shall be IAW AR 385-95, para. 3-5c.

**Note:** References to a roster in the context of *records of training* does not necessarily imply an alpha roster. The emphasis in maintaining records of the training (that is, briefings) should not be focused on capturing signatures - rather - the ability to demonstrate affected individuals in the Unit or Facility have received the required briefings. The method used to record attendance is at the discretion of the local Commander.

b. **Safety Meetings** (for example, Safety Councils) shall be conducted and convened IAW this Circular and other applicable regulations. These may also include safety symposia, such as those sponsored by an AASF for its supported Units, or an AVCRAD for its regional client States/Territories. Like safety standowns, Units/Facilities are authorized to sponsor/conduct symposia on an as-needed basis.

c. **Safety Standowns.** DoD-, DA-, or NGB-directed Safety Standowns shall be performed IAW the accompanying Letter of Instruction (LOI) for each such standown. The several States and Territories, and their subordinate organizations, are authorized to conduct annual (or more frequent) safety standowns. Like crew endurance policies, these standowns should incorporate safety awareness programs and instruction for *all* aviation unit personnel – not just aircrewmembers. These standowns should be scheduled so ARNG personnel may attend in an existing pay status (for example, drill), and during periods of the training year when garrison training is expected (for example, during months when no flying is reasonably expected due to weather). Additionally, funds for other than pay and allowances of attendees (for example, speaker fees/stipends, safety award plaques) are typically accessed from .6G funds IAW Defense Finance and Accounting Service (DFAS) 37-100 Manual (Financial Management – The Army Management Structure Fiscal Year \* \*).

(1) **Post-Accident Standowns.** An immediate standown of the affected Unit/Facility will be required any time a Class A or B mishap occurs to allow for an internal review to preclude further occurrence. This standown has no specific period; its purpose is to ensure all Unit/Facility members are presented with those facts that are known about the mishap. Members of the chain of command from the responsible Unit/Facility will brief the State/Territory AG within 48 hours of experiencing a Class A or B mishap. Further briefing actions are noted in NGR 385-10.

d. **Aviation Mishap Prevention (Safety) Bulletin Boards** shall be established in all aviation Units/Facilities. Bulletin boards will be located in areas where Aircrewmembers and those supporting aviation operations (for example, Aircraft Mechanics, Wheeled Vehicle Mechanics, Supply Technicians, administrative personnel) will see them daily. Information placed on these boards will be current, interesting, beneficial to personnel, directly related to Aviation Safety and aircraft mishap prevention, and should be neatly displayed to ensure information is read.

(1) **Minimum information and criteria for Safety Boards in electrical hazard areas** that are used for storing and displaying emergency kits should be painted white with a two-inch green border. The board title should contain white letters on a green rectangular background and the positions of the items be designated in black letters on a white background. Emergency kits posted to these boards should be stocked IAW TB 385-4 (Safety Requirements for Maintenance of Electrical and Electronic Equipment), para. 3-21a.

(a) First aid kits posted to the Safety Board, and placed in common areas of the Unit/Facility, will be inspected, maintained, tagged, logged and tracked as those installed in aircraft.

(2) **Safety bulletin boards in other than electrical hazard areas** shall be distinguished as a Safety Bulletin Board (for example, with a painted green border, or the words "Safety Bulletin Board" appended to the top of the board) and be posted in a conspicuous area. The ASO and ASNCO shall maintain them with timely information, that may include: a) Copies of DoD periodic safety publications/magazines (for example, Flightfax; Countermeasure; the U.S. Naval Safety Center [USNSC] magazines Ashore, Approach or Mech; the U.S. Air Force Safety Center [USAFSC] magazines Flying Safety, or Road & Rec; the U.S. Air Force Air Combat Command magazine The Combat Edge; b) information downloaded from Safety-related websites; c) the agenda(s) for the next Safety Council meeting (CSC [and ESC, as applicable]); d) the most recent AAPS results; e) Command Safety Messages (for example, Holiday safety reminders); and f) safety-related newspaper clippings, and posters. All information posted to the Safety bulletin board should emphasize accident prevention and/or lessons learned. Otherwise, these Safety bulletin boards shall evidence:

(a) The names of the Commander, ASO, and ASNCO;

(b) a Safety Events Calendar (for example, a YTC) (see paragraph 3-4a of this Circular);

(c) minutes of the most recent Safety Council meeting minutes (CSC [and ESC, as applicable]);

(d) the Commander's Safety Philosophy (memorandum);

(e) a completed DD Form 2272 (Department of Defense Safety and Occupational Health Protection Program) (long form), available on the USASC website at <http://safety.army.mil/pages/guidance/dd2272.pdf>;

(f) any completed anonymous OHRs (which shall remain posted for not less than 30 days following their completion); and

(g) the following blank forms: 1) DA Form 285-AB-R (U.S. Army Abbreviated Ground Accident Report [AGAR]); 2) DA Form 2028; 3) DA Form 2397-AB-R (Abbreviated Aviation Accident Report [AAAR]); 4) OHR; 5) DA Form 4755 (Employee Report of Alleged Unsafe or Unhealthful Working Conditions); 6) SF 368; and 7) State/Territory-, and locally-directed forms.

e. **Monthly Mishap Prevention/Safety Themes.** Commanders should emphasize and participate in, to the greatest extent practicable, monthly mishap prevention/safety themes. The National Health Information Center publishes a partial list of National Health Observances at <http://www.health.gov/nhic/pubs.nho.htm>. ASOs/ASNCOs are encouraged access this and other like websites in preparation for effecting such themes/observances. Table 3-3 (below) provides at least a partial list of themes/observances and their accompanying months.

THEME/OBSERVANCE	MONTH OBSERVED
National Eye Care Month	January
National Glaucoma Awareness Month	January
Healthy Weight Week	January
American Heart Month	February
Low Vision Awareness Month	February
National Burn Awareness Week	February
National Child Passenger Safety Awareness Week	February
National Nutrition Month	March
Workplace Eye Health and Safety Awareness Month	March
Save Your Vision Week	March
National Inhalants and Poisons Awareness Week	March
Sports Eye Safety Month	April
National Building Safety Week	April
National Public Health Week	April

World Health Day	April
Better Hearing and Speech Month	April
Hepatitis Awareness Month	May
National Sight-Saving Month	May
Skin Cancer Awareness Month	May
National SAFE KIDS Week	May
National Running and Fitness Week	May
National Employee Health and Fitness Day	May
Buckle Up America! Week	May
World "No Tobacco" Day	May
National Safety Month	June
Eye Safety Awareness Week	June
National Sobriety Checkpoint Week	June
Fireworks Safety Month	July
Eye Safety Awareness Week	July
National Sobriety Checkpoint Week	July
Cataract Awareness Month	August
Baby Safety Month	September
Children's Eye Health and Safety Month	September
National Food Safety Education Month	September
Prostate Cancer Awareness Week	September
Family Health and Fitness Days USA	September
Auto Battery Safety Month	October
Breast Cancer Awareness Month	October
Family Health Month	October
Healthy Lung Month	October
National Fire Prevention Week	October
National Health Education Week	October
National Infection Control Week	October
American Diabetes Month	November
Great American Smokeout	November
National Drunk and Drugged Driving (3D) Prevention Month	December
Safe Toys and Gifts Month	December

**Mishap Prevention/Safety Themes**  
**Table 3-3**

### 3-5. Aviation Medicine Program.

a. The Aviation Medicine Program objectives are to promote Aviation Safety and prevent illness and injury of ARNG Airmen and aviation support personnel. Specific aims are to promote the health and safety of aviation personnel, beyond that in NGR 385-10, through appropriate preventive medicine practices; ensure a safe, toxic-free environment for aviation personnel; and evaluate personal equipment and the man/machine interface for toxic and hazardous conditions.

b. Unit/Facility Commanders, and Commanders of medical activities authorized a Flight Surgeon (or equivalent [for example, an authorized APA]), will ensure adequate time and support are available for Flight Surgeons to accomplish the program objectives. The Army Surgeon General, through the ARNG Surgeon, will initiate policies, prepare directives, and provide technical advice as required to assist in program fulfillment. Flight Surgeons will establish an Aviation Medicine Program tailored to the specific needs of the supported aviation population(s).

c. The ARNG Aviation Medicine Program includes, but is not limited to: Periodic and special flight physical examinations; routine aviation personnel medical care; a general preventive medicine program for all aviation personnel; active support of the aviation safety program through presentations at safety meetings and standowns; participation in mishap investigations (reference AR 40-21 and AC 21-22); medical representation on FEBs; hospital and installation aeromedical activities supervision or coordination, as appropriate; and (ensuring the) supervision of issue, fitting, and use of personnel life support and safety equipment. The Flight Surgeon shall also assist in developing flight limits and crew endurance standards (see paragraph 4-8b of this Circular); in completing human factors-related portions of mishap reports; and ensuring presentation of the Aeromedical Continuation Training subjects in Table 3-2 of this Circular.

d. In addition to the requirements of AR 40-3, Flight Surgeons shall be required to participate in an operational capacity, to the greatest extent possible, as an aircrewmember in flight in each type of aircraft assigned to supported Units/Facilities. While certain pay regulation requirements apply regarding actual flight for flight pay, the intent is to give the Flight Surgeon a regular first-hand appreciation for the stresses the supported aircrewmembers endure in various modes and conditions of flight. This appreciation is sacrificed when the Flight Surgeon is relegated to an occasional ten-minute flight or a local area "joy ride". Clearly, these two examples are outside the intent of the regulation(s).

e. **Aviation Medicine Program Roles and Responsibilities.** The Aviation Medicine Program is an integral component of the State/Territory Aviation Program and requires frequent coordination through the SAAO, State Surgeon, Chief of Staff, Aviation Commanders, Safety Councils, and Standardization Committees.

(1) **State Surgeon.** Responsible for supporting the State/Territory aviation medicine program(s), and ensuring:

(a) A quality ARNG Aviation Medicine Program to support aviation accident prevention policies and promote aviation unit operational readiness;

(b) administrative support is available to accomplish Program objectives; and

(c) periodic consultation with Aviation Unit/Facility Commanders and State/Territory Aviation Medicine Officer (SAMO) to ensure objectives are met.

(2) **SAMO.** The State/Territory Surgeon, in coordination with the SAAO, will designate a Flight Surgeon or APA to serve as SAMO. Duties and responsibilities include:

(a) Serving as principal advisor to the ARNG Chief of Staff, SAAO, and State/Territory Surgeon for Aviation Medicine issues;

(b) monitoring the Aviation Medicine Program, including Army Flight Surgeon operations and aeromedical administrative support within the State/Territory; and

(c) coordinating Aviation Medicine ARMS preparation for all Aviation Units/Facilities within the State/Territory. A listing of SAMOs can be found on the Surgeon's Home page on GuardNet (<http://guardnet.ngb.army.mil>).

(d) The SAAO will work in coordination with the SAMO and State/Territory Surgeon on Aviation Medicine-related issues.

(3) **The Unit/Facility Flight Surgeon/APA** provides certain medical support to the Unit/Facility; and

(a) assists the Unit/Facility Commander in developing, presenting, and monitoring a Unit/Facility aeromedical training program (including Special Aeromedical Training required IAW FM 3-04.301, paragraphs 1-10 and 1-11); and

(b) fulfils the Aviation Medicine Continuing Education requirements in paragraph 7-1f of this Circular.

(4) **The Aviation Unit/Facility Commander**, as with *all* safety-related programs, is ultimately *responsible* for the overall Unit/Facility Aviation Medicine Program. The *authority* (and *accountability*) for day-to-day administration of this program may be delegated by the Commander.

f. **Hearing Conservation.** In addition to FM 3-04.301, also reference AC 36-2C, AC 36-3G, AC 91-35, AC 20-133, TM 5-805-4, DA Pam 40-501, and NGR 385-10.

(Paragraph 3-6 and subsequent text continued on next page.)

### 3-6. Safety Literature.

a. Each aviation Unit/Facility will maintain a library of all reasonably available Aviation Safety literature. The library will include aircraft and equipment operator's manuals, and training circulars for qualification, training, operation and standardization applicable to each type of aircraft and piece of equipment assigned. This material will be available in Unit/Facility Operations or in areas frequented by aviation personnel. Although this library, or aspects of it, may be maintained in an electronic medium, it must be reasonably accessible by all Unit/Facility personnel during all hours the Unit/Facility is operational.

b. The publications as listed in Appendix A (Section I) of this Circular, at a minimum, shall be maintained (or readily accessible by electronic means) by each Facility.

(1) MTOE Units shall maintain copies of the following publications (see Table 3-4 below). Those documents annotated with an asterisk (\*) shall (also) be maintained in printed (hard) copy. These publications/documents shall be maintained in the Tactical Operations Center (TOC) or some other centralized location to the Unit (during field operations), and maintained as readily accessible for use:

PUBLICATION No.	TITLE
AR 11-9	The Army Radiation Safety Program
AR 40-8	Temporary Flying Restrictions Due to Exogenous Factors
AR 40-21	Medical Aspects of Army Aircraft Accident Investigation
AR 95-1*	Flight Regulations
AR 95-2	Air Traffic Control, Airspace, Airfields, Flight Activities, and Navigational Aids
AR 385-10*	The Army Safety Program
AR 385-40*	Accident Reporting and Records
AR 385-55	Prevention of Motor Vehicle Accidents
AR 385-63	Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat
AR 385-64	Ammunition and Explosive Safety Standards
AR 385-95*	Army Aviation Accident Prevention
AR 420-90	Fire and Emergency Services
AR 600-55	The Army Driver and Operator Standardization Program
AR 672-74	Army Accident Prevention Awards Program
AR 700-141	Hazardous Material Information system (HMIS) (RCS DD-FM&P (A, Q & AR) 1486)
DA Pam 40-501	Hearing Conservation Program
DA Pam 385-1	Small Unit Safety Officer/NCO Guide
DA Pam 385-40*	Army Accident Investigation and Reporting
FM 1-140	Helicopter Gunnery
FM 1-300	Flight Operations Procedures
FM 1-400*	Aviator's Handbook
FM 1-508*	Maintaining Aviation Life Support Equipment
FM 3-04.301	Aeromedical Training for Flight Personnel
FM 3-04.500	Army Aviation Maintenance
FM 3-100.12	Risk Management
FM 10-67-1*	Concepts and Equipment of Petroleum Operations
FM 25-101	Battle Focused Training
FM 100-14*	Risk Management
FM 101-5	Staff Organization and Operations
NG CIR 385-95*	Army National Guard (ARNG) Aviation Safety Program and Aviation Accident Prevention Plan (AAPP)
NGR 95-1*	ARNG Aviation: Flight Regulations
NGR 95-210*	Army National Guard: General Provisions and Regulations for Aviation Training
NGR 385-10*	Army National Guard Safety and Occupational Health Program
TC 1-210*	Aircrew Training Program Commander's Guide to Individual and Crew Standardization

#### Safety-Related Publications

Table 3-4

c. A hard (printed) copy of DA Pam 385-40, the Unit/Facility pre-accident plan(s), and blank copies of accident reporting forms (see paragraphs 3-7c(5)(b) and 3-7c(6) of this Circular), shall (also) be maintained in the Crash Investigation Kit (National Stock Number [NSN] 5180-00-903-1049, or equivalent.

d. **Material Safety Data Sheets (MSDSs)** shall be maintained IAW 29 CFR 1910.1200 and NGR 385-10. Immediacy of accessibility mandates a hard (printed) copy of the MSDS for each known chemical in the Unit/Facility, to be maintained in a central location to each work area. Single MSDS libraries for small, single-hangar Units/Facilities may suffice. However, if the "Master" MSDS library is maintained in an office area, then at least a second library will be required in the hangar (work area). Larger hangars, or larger Units/Facilities with more than one hangar, will require more than one worksite MSDS library. Worksite MSDS libraries will likely be required in the Unit/Facility Supply area; Nuclear, Biological, and Chemical (NBC) room; in the hangar(s), as mentioned earlier; the motor pool; the fuel depot; and other work areas. MSDSs may also be maintained in electronic format. MTOE Units shall also make provisions to maintain MSDSs (centrally located) in field sites during exercises/deployments away from (home) garrison.

(1) MSDSs are available through many sources - some of which are Government-furnished, and others are available for commercial procurement. Many MSDSs are available at no cost, however, on line. One such website, that provides access to at least 85 such no-cost sites, is <http://www.ilpi.com/msds/index.html>.

### 3-7. Mishap Reporting and Investigation.

a. Ground mishaps shall be reported IAW AR 385-40, DA Pam 385-40, and NGR 385-10.

(1) Ground mishaps involving aircraft or aviation materiel not meeting the criteria of AR 385-40, para. 2-8a (for example, an aircraft main rotor blade that was damaged while ground-handling the aircraft in the vicinity of a hangar, and the damage is less than \$2,000) shall be reported to the MACOM (NGB-AVS-SA) on an AGAR. Such AGARs shall be noted as "E" in block 3 of the form, and their use limited to trend analysis at the MACOM.

b. Aviation mishaps shall be reported and investigated IAW AR 385-40, DA Pam 385-40, DODI 6055.7, AR 95-30, AR 385-14, AR 190-40, AR 75-1, and this Circular. Also reference FAA Order 8020.11B, and AC 20-123.

c. Pre-Accident Plans shall be developed (by the Operations Officer), maintained and posted IAW AR 385-95, FM 1-300, 29 CFR 1910.38, AR 420-90, and paragraph 4-16 of this Circular. Also reference AC 150/5200-31A (Airport Emergency Plan), and NFPA 1620 (Recommended Practice for Pre-Incident Planning). Pre-accident plans shall also include actions required for overdue aircraft, and for ground accidents, IAW paragraph 4-16 of this Circular.

**Note:** Pre-Accident Plans shall include specific provisions for Press/Media Relations. Poor press/media relations can have lasting negative affects - not only in terms of mishandled notification sequences, but quoted misstatements of otherwise well-meaning ARNG members that cannot be retracted. The provisions of DA Pam 385-40, para. 2-2f, must be included in each Unit/Facility Pre-Accident Plan; and the provisions of this paragraph reviewed on a routine basis.

(1) Aviation Mishaps should be considered at least (a) Class C until an ECOD or ACOD becomes available. As such, these plans shall also include specific instructions for processing of pathology (samples) (fatalities and non-fatalities) and chain-of-custody. Additionally, MOUs/MOAs should be emplaced with Medical facilities selected to draw/collect and process post-mishap blood and urine samples (also see paragraph 2-7c(1), and Appendix J of this Circular). Specific instructions for the amount of each draw/collection, and how to process each are available from the AFIP at <http://www.afip.org/oafme/tox/tox.html>.

(2) Pre-Accident plans are the responsibility of the Unit/Facility Operations Officer, with assistance provided by the ASO and ASNCO. Pre-Accident plans shall be reviewed monthly, and rehearsed quarterly IAW AR 385-95; FM 1-300; 29 CFR 1910.38; and AR 420-90, para. 6-1 (also see paragraph 4-16a of this Circular).

(3) The Unit/Facility pre-accident plan(s) shall be reviewed by each Flight Operations representative (present), each day prior to undertaking flight operations.

(4) The Unit/Facility pre-accident plan(s) shall be placed conspicuously in the Flight Operations area, available for immediate use, and appropriately tabbed for ready application.

(5) Units/Facilities with organic aircraft (this does not specifically include those Companies/Detachments or Brigades/Regiments/Groups and higher-level organizations that have no assigned aircraft) shall maintain a Army Aircraft Crash Investigation Kit (NSN 5180-00-903-1049 or equivalent), as provided in the MTOE/TDA. Underlying factors in the preparation and maintenance of this kit include: a) No source of commercial power for computers, printers, or electrical lights will likely be available at the scene of the mishap; and b) the organization experiencing the mishap will likely be unassisted by a higher headquarters or USASC in the critical initial phases of the investigation.

(a) The Crash Investigation Kit shall be inventoried at least once each year (or as mandated by organic materiel [for example, first aid kit ointments] evidencing more frequent expiration dates, whichever is more frequent), using Supply Catalog (SC) 5180-99-A11 (Sets, Kits, and Outfits Tool Kit, Army Aircraft: Crash Investigation 5180-00-903-1049 [LIN W31565] [EIC N/A]).

(b) The Crash Investigation Kit shall be augmented with: Batteries for the camera(s), tape recorder and flashlight(s); discs or film for the camera; tape(s) for the tape recorder; AR 385-40 and DA Pam 385-40; latex (or equivalent) gloves; dust masks and other PPE determined necessary by the ASO/ASNCO; those publications/forms described earlier in this Circular; a Crash Pass Roster and Passes (see Appendix L of this Circular); paper copies of applicable DA Form 2397-series and DA Form 285-series mishap reporting forms from DA Pam 385-40; carbon paper; and other items deemed necessary by the ASO/ASNCO.

(c) The Crash Investigation Kit is authorized to be hand-receipted to the ASO IAW DA Pam 710-2-1 (Using Unit Supply System (Manual Procedures)), para. 5-3; and shall be stored in an area immediately accessible to the ASO, ASNCO, and other personnel as determined by the ASO or ASNCO.

(6) Units/Facilities *without* organic aircraft shall maintain *ready access to* a Crash Investigation kit (typically through the supporting Facility or adjacent Unit with organic aircraft) with at least the following contents: A carrying case for kit contents and those items noted in paragraph 3-7c(5)(b) above. This kit shall be inventoried once each year (or as mandated by organic materiel [for example, first aid kit ointments] evidencing more frequent expiration dates, whichever is more frequent). Funding for, and maintenance of, Crash Investigation Kits (as referenced in this paragraph and as augmented in this Circular) is IAW DFAS 37-100 Manual, typically using .6G funds (see paragraph 7-4 of this Circular).

**Note:** Aside from lifesaving or first aid measures for the aircraft or vehicle involved in the accident, the prime concern at the accident scene is preservation of the evidence. As such, the principal function of the Crash Investigation Kit begins with ensuring the integrity of the accident scene until release by the AIB President. Also reference AC 150/5200-12B (Fire Department Responsibility in Protecting Evidence at the Scene of an Aircraft Accident).

**d. Aviation Class A through C accidents shall immediately be reported to the local chain of Command, then** (using a DA Form 7305-R [Worksheet for Telephonic Notification of Aviation Accident]):

(1) **IAW AR 385-40, para. 3-2, to (USASC at) DSN 558-2660/-3410 or Commercial 334 255-2660/-3410;**

(2) **notify the ARNG Emergency Operations Center (EOC) at DSN 327-9350 or Commercial 703 607-9350; then**

(3) **notify NGB-AVS-SA at DSN 327-7735/-7736/-9745 or Commercial 703 607-7735/-7736/-9745.**

(4) ARNG Fixed-wing organizations shall also notify OSAA/OSACOM QA at DSN 656-7077/-7078 or Commercial 800 323-2689.

**Note:** ARNG Fixed-wing accident/incident reports shall be submitted through OSAA Safety (FAX DSN 656-7030 or Commercial 703 806-7030; email at [osaasafety@osaa-arng.belvoir.army.mil](mailto:osaasafety@osaa-arng.belvoir.army.mil); or surface mail at OSAA Safety, 6970 Britten Drive, Suite 201, Ft. Belvoir, VA 22060). OSAA Safety shall review each accident/incident report for adequacy and clarity before forwarding to NGB-AVS-SA.

e. **Closed-loop Accident Report Processing.** Processing of ARNG Aviation accident and incident reports shall be through NGB-AVS-SA, IAW AR 385-40, para. 5-3. Causation and the findings/recommendations of each accident/incident shall reflect the processes denoted in Chapter 2 of this Circular, AR 385-40 and DA Pam 385-40. Causation analysis shall follow the Mishap Causation model IAW this Circular – that is, key causes directly attributable to the aircrew or individual shall be considered after other causes have been considered and exhausted. This is not a conflict with either AR 385-40 or DA Pam 385-40: Rather, an instruction in the order of causation consideration, and more in line with DODI 6055.7. Each causal factor with responsible agency, and the frank comments of the Board relative to each, shall not be amended solely or partially to preclude potential offense. Conversely, the chief reason for the conduct of an accident investigation is the prevention of (the next) accident(s). Findings and recommendations cited in the technical report will have an impact on remedying system inadequacy(ies). The written analysis must fully support each finding. Therefore, the analysis shall be thorough, logical, and conclusive, precluding hidden agendas and messages in the submitted accident report.

**Note:** Accident Investigation Reports are distinctly different than Collateral Investigation Reports, conducted under AR 15-6 (Procedure for Investigating Officers and Boards of Officers). As such, the admonishments of AR 385-40, paragraphs 1-7 and 1-8, must be strictly abided. More specifically, although *non-privileged* information acquired by a Safety Accident Investigator shall be made available to the Collateral investigation (reference AR 385-40, para. 4-8), the latter is conducted independently and apart from other types of accident investigations. Safety personnel (assigned or MOS-trained) and personnel responsible for conducting accident investigations will not conduct, review, evaluate, assist with, or maintain on file the collateral investigation. However, Safety personnel can utilize and shall be given access to any information in the collateral legal/administrative investigation. The considerations of title 10 United States Code, Section 2555 - for such collateral boards of more than one member to have at least one member that possesses knowledge and expertise relevant to aircraft accident investigation - must be weighed. While a safety-trained person would satisfy this requirement, the potential for conflict with the AR 385-40 provision must be considered - and consultation with the State, NGB, or USASC JAG is highly encouraged during the board selection process. Also reference Air Force Instruction (AFI) 51-503 (Aircraft, Missile, Nuclear, and Space Accident Investigations) as an additional source of information in the Accident Investigation process.

(1) NGB-AVS-SA shall review all ARNG Aviation mishap reports submitted for adequacy and accuracy. Also see paragraph 3-7d(4) above.

(a) Those reports requiring more information or correction shall be returned to the originator for amendment or correction. NGB-AVS-SA shall maintain a suspense copy of returned reports, shall notify USASC of such activity and request any necessary extensions to submission deadlines, and work directly with the originator to reconcile any aspects of the report.

(b) Accidents or incidents that were over-classified (for example, reported as a Class D, and later determined to be a Class E), or under-classified (for example, reported as a Class D, and determined to be a Class C; Witness Statements not written in the third person [see **Note** below]), as determined by NGB-AVS-SA, shall be returned to the originator for substantiation and correction. Such corrections may require the appointment of a formal AIB, where one was not previously (considered) warranted.

**Note:** AR 385-40, para. 2-3, details Witness Interview Techniques. An excellent companion textbook to this very sensitive aspect of aircraft accident investigation is Investigative Interviewing, © 1999, by Drs.



Rebecca Milne and Ray Bull, published by John Wiley & Sons Ltd. This book is available from many commercial sources, and through most local public and military libraries, and gives the reader clear definitions and recommendations to more effectively conduct witness interviews.

(c) Pre-accident plans shall incorporate instructions for appointment of the AIB IAW AR 385-40, para. 1-9a. If the General Court Martial (GCM) Authority (typically the State AG) has delegated the function of AIB Appointment Authority, the person to whom this authority has been delegated must maintain a copy of such authority (memorandum); and shall append each AIB order IAW AR 25-50 (Preparing and Managing Correspondence), para. 6-2 (for example, "FOR THE ADJUTANT GENERAL"). A copy of both the delegation authority (memorandum) and AIB order must be forwarded with each Class A through C Aircraft Accident Report.

(2) Each finding and recommendation shall be appended with a HAZLOG number, as assigned by the Unit/Facility submitting the accident report. Hazards identified as a result of the accident/incident report that require actions beyond the capability of the submitting organization Safety Council, shall be elevated through successive Safety Councils to the appropriate (Command) level. Safety Councils will administer such HAZLOG notations, as they would any other, IAW AR 385-95 and this Circular.

(a) HAZLOG notations shall not be noted as "closed", regardless of whether the item was elevated for resolution, until the countermeasure/corrective action is verified as implemented, and demonstrated as effective (see definition of "Effectivity" in the Glossary).

(b) In effecting the countermeasure/recommendation, the responsible action officer/agency shall provide the originator objective evidence of compliance and implementation (for example, a recommendation for a publication change to a regulation shall be satisfied by the proponent of the regulation returning a revision of the regulation reflecting the requested change). The originator shall, in turn, furnish a copy of this evidence to NGB-AVS-SA.

(3) Recommendations of an accident report not honored by a responsible agency or individual require substantiation endorsed by the first Flag (General) Officer (no designee) in the chain of command. This level of visibility serves two purposes: a) As a strong incentive to ensure reasonableness in the recommendation as submitted by the originator; and b) ensures the correct gravity and emphasis will be understood in effecting the recommendation/corrective action – particularly to preclude a hasty dismissal of the recommendation/corrective action as insignificant by a far-removed action officer/agency.

(a) Should the recommendation be returned to the originator without further action being taken, the originator shall develop a new Recommendation for that particular finding(s), and resubmit/amend the accident report. The resubmission/amendment requires the same approval and tracking process(es) as for the original submission.

f. NGB-AVS-SA shall maintain a tracking database for accident and incident reports processed by the MACOM.

(1) This database shall (also) include provisions for assignment of a HAZLOG number, as assigned by either the originator or NGB-AVS-SA, in addition to the requirements of AR 385-40, para. 5-3c.

(a) To facilitate tracking and RCAS compatibility, HAZLOG notations will be identified using a three position character as follows: The Unit/Facility Unit Identification Code (UIC), followed by the Fiscal Year (FY), followed by a sequential number. For example, the first HAZLOG notation for FY 2002 at the AASF For Utah would be identified as "WYQJ99-02-001." The second HAZLOG entry would be assigned "-002", and so forth.

g. **Materiel Failure.** AAARs determined or suspected to be caused by a Materiel failure (reference the specific exceptions in AR 385-40, para. 2-2e) will be documented and annotated as follows:

(1) Block 15 shall be conspicuously annotated with "PQDR SUBMITTED." An SF 368 shall be initiated and processed/forwarded by the AMO, and a copy furnished to the ASO/ASNCO. A copy of the SF 368 shall be submitted with the AAAR to NGB-AVS-SA, and the original SF 368 processed IAW DA Pam 738-751, pages 61-68. The exhibit in question shall be held in bond by the originating Unit/Facility pending disposition by the U. S. Army Aviation and Missile Command (AMCOM). Also reference paragraph 5-1 of this Circular, and AR 702-7.

3-8. **ARNG SOH Program.** ARNG policy is to maintain and promote the individual's health and well-being by protecting individuals from undesirable health effects that may result from exposure to, inadequate controls of, operations with, and handling of, equipment, processes, hazardous/toxic materials, products and wastes. The various procedures and guidance for planning, organizing, coordinating, and controlling the implementation of the safety and health program are contained in NGR 385-10, AR 385-10, AR 40-5 (Preventive Medicine), AR 40-501 (Standards of Medical Fitness), FM 3-04.301, DA Pam 40-503, and the several other related publications.

## Chapter 4

**Operational Considerations.** This chapter defines Training planning criteria and risk management; directives applicable to each element of ARNG Aviation missions (including Crew Endurance, fratricide prevention, collision and bird strike avoidance, and other related factors); explosives and pyrotechnics controls; hazard reporting steps; pre-accident plans; and selected ground functions as they apply to the ARNG Aviation Safety Program.

4-1. **Mission and Training Planning and Risk Management.** All missions and training will be planned, briefed and managed IAW the Unit/Facility SOP, AR 95-1, NGR 95-1, NGR 95-210, FM 100-14, FM 3-100.12, FM 3-0, and (as applicable) Chapter 2 of this Circular. All personnel involved in a specific operation, regardless of the nature of the operation, will be thoroughly briefed on all aspects of the operation. This briefing will include a back-brief, to ensure comprehension before undertaking the operation; and a debrief, to ensure completion of the undertaking as briefed. The Commander, or their representative, will monitor *mission* briefings (this does not imply individual aircraft Crew/Passenger briefings, nor does this imply Commanders themselves must attend every mission briefing). The mission or operation will be briefed by the correct level of Risk Assessment Approval Authority, as clearly defined in the Unit/Facility SOP (for example, a Facility AFTP Supervisor may be authorized to approve and brief Moderate Risk missions). Regardless of operational relationship, missions assessed as Extremely High Risk (EHR) shall only be approved by the first Flag (General) officer in the chain of command (no designees).

**Note:** Risk Assessment Approval/Mission Briefing authorities shall also be identified by risk level (that is, Low, Moderate, High, Extremely High) IAW AR 95-1, para. 2-14; and FM 1-300, Chapter 5.

a. **Mission Turndown/Turnback Protocol.** Missions that were turned down by a crew (or Unit) (that is, those missions that were beyond the capability or capacity of the crew, or could not be managed within an acceptable risk range); or those that a crew aborted after undertaking the mission – and subsequently assigned to another crew – should include the specific circumstances (and rationale) of the turndown or turnback. This protocol serves two key functions: 1) Precluding the pitting of one crew or Unit against another; and 2) immediate application of lessons learned during the planning or early execution phases of a mission. A summary of the turndown/turnback should be noted on the back-brief/debrief sheet for the initial crew, and transcribed to the mission brief sheet for the subsequent crew or Unit. Commanders and Operations Officers should not misapply this protocol by allowing only "special" crews perform high-visibility or difficult missions. This protocol is integral to the effective management of risk as it provides timely identification of hazards to the chain of command, raises risk awareness for both leaders those in their charge, and promotes accountability.

b. **Task Force, ODT, CTC, and like-events** require comprehensive risk management at each phase of the rotation/operation/training event. These considerations may also entail multiple-command AT periods for those commands that do not typically train or operate under a common command structure, and for

which no SOPs or other specific guidance has been composed. The principal (Officer in Charge [OIC]) of each such event (typically the senior ranking Battalion/Squadron Commander involved) will ensure standardization of the Risk Management processes of each participating organization. Risk Management processes will be demonstrated by the embedding of a Risk Management Plan in the operational planning and execution of the rotation/operation/training event. And, the risk assessments will also clearly define the processes of, and tasks relevant to: Mobilization, Train-up, Deployment, On-site/Theater Operations, Reployment, and Standown/Demobilization.

(1) Each operational organization must be prepared to investigate – at least initially – their own mishaps. During the planning of any deployment, the specific provisions of responsibility and chain of accident reporting must be clearly defined. The on-site safety staffs of the host site organization shall not be relied upon as a principal in the performance of mishap investigation services.

(2) **Succession/Continuity Plans** shall be developed for Units involved in Task Force, ODT, CTC, and like-events – particularly for those not involving the entire Unit. These plans shall be developed as early as practicable in the planning sequence(s) for such events, to ensure cross-leveling of certain unique talents within the Unit. Stay-behind elements should not be treated as a “Second-string” as a result of planning for “best-performance” by those deploying. Discounting operational uniqueness in the new Area of Operation (AO), succession/continuity plans should assure consistency between deploying and non-deploying elements of the Unit(s).

c. Several unique and detailed requirements may exist, and the involvement of the ASO/ASNCO early in the planning process serves to expedite their consideration. For instance, ensuring the ordering of the laser safety glasses through the Logistics Officer (S-4); or ensuring enrollment of certain aviation personnel in a dosimetry or monitoring programs through the Occupational Health (OH) Nurse (OHN) or Industrial Hygienist.

4-2. **Mission Scheduling.** All approved missions/operations will be scheduled by/through the Operations Officer or their designated representative. The Operations Officer will ensure the aircraft/equipment and personnel chosen for the mission are capable of safely and efficiently accomplishing the mission.

4-3. **Crew Selection.** The Commander, through the Operations Officer, or their designated representative (for example, AFTP Supervisor), will select crewmembers on a mission-by-mission basis. They will ensure the crew selected for a given mission is well-suited, qualified, and current in the tasks required in accomplishing the mission. The ASO will monitor crew selection and ensure all operational and safety factors, such as crew endurance, are considered in the selection process.

4-4. **Aircraft Selection.** The AMO, or designee, will review the mission schedule and provide the required number of aircraft that are capable of performing a specific mission to the Operations Officer. Assigned crews will ensure the assigned aircraft is capable of performing the mission. Discrepancies will be immediately reported to the AMO and to the Operations Officer. The mission will not be approved or launched until these discrepancies are satisfactorily remedied, and any adjustments necessary to the mission briefed.

4-5. **Weather.** No mission will be launched without a standard weather briefing IAW AR 95-1, para. 5-2d(7). If a Weather Forecaster is not available, aircrews are expected to obtain the best weather briefing available for the specific mission. The Army priority for obtaining a formal weather brief is: a) U.S. Military Weather Forecaster, then; b) Combat Weather Team or Operational Weather Squadron, then; c) Regional Weather Hub; then d) other military or Government Weather Service. No mission will be launched if the weather does not meet the criteria in the Unit/Facility SOP and AR 95-1. The Operations Officer is responsible for providing current weather to aircrewmembers; and will monitor flight plans and Aircrews to ensure current weather information has been obtained, and is within parameters for the mission. As/when time permits, weather information should be obtained and briefed by two separate persons to reduce the possibility of inaccurate or fraudulent weather entries being made during the risk assessment process. Additionally, the crew shall update weather briefing information on stopover flights. Weather planning shall also include ensuring serviceability of required navigational beacons and services,

IAW AR 95-10, the AIM, and other information posted via NOTAMs (for example, Wildfire Flight Restrictions, as discussed in paragraph 4-9a(1) of this Circular) regarding route of flight. Also reference FM 1-230, AC 00-6A, AC 00-24B, and AC 120-50A.

4-6. **PC Program.** A PC program will be effected within all aviation organizations (having aircrews) of the ARNG. States/Territories will tailor PC programs IAW AR 95-1, NGR 95-1, NGR 95-210, and TC 1-210, to promote standardization of selection criteria and to ensure continuous monitoring at all levels. Also reference AR 34-4.

4-7. **Crew Coordination.** Crew (or "Aircrew") coordination, as a program, will be administered IAW TC 1-210, and the Ft. Rucker Exportable Training Package (<http://www-rucker.army.mil/des/act.htm>). AC 120-51C (Crew Resource Management Training), serves as an excellent resource in administering and augmenting a crew coordination program. Also reference AC 60-22 (Aeronautical Decision Making), AC 60-21 (Announcement of Availability: A Series of Aeronautical Decision Making Training Manuals), and AC 120-71 (Standard Operating Procedures for Flight Deck Crewmembers). Units/Facilities are authorized to conduct Crew Coordination refresher training, and document this training on the Individual Aircrew Training Folder (IATF) IAW FM 1-300. Annual evaluations of crew coordination shall be performed IAW TC 1-210 and the applicable ATM (for example, TC 1-214 [Aircrew Training Manual Attack Helicopter, AH-64], para. 6-3).

**Note:** An excellent reference (textbook) that deals specifically with Crew Coordination is Human Factors in Multi-Crew Flight Operations, © 1999, written by Harry W. Orlady and Linda M. Orlady, and published by Ashgate Publishing Limited. This book is available from many commercial sources, and through most local public and military libraries, and gives the reader clear definitions and recommendations to implement an effective Crew Coordination and Cockpit Resource Management program.

a. Additionally, the Naval Aviation Schools Command at Naval Air Station (NAS) Pensacola (FL) conducts an Aircrew Coordination Training and Crew Resource Management (ACT-CRM) School, that has proven to be of great benefit to Army Aircrews. Information regarding this course may be found at [www.act.navy.mil](http://www.act.navy.mil) or by phoning the School at DSN 922-2088.

**Note:** The Bell Helicopter Textron, Inc. *Heliprops* program produces the Human AD, a magazine designed to heighten awareness of human error-related accidents that stresses aeronautical decision-making skills. Information about the *Heliprops* program, and a complimentary subscription to the Human AD, is available online at <http://www.bellhelicopter.textron.com>.

4-8. **Factors Affecting Personnel Readiness and Qualifications.** Numerous complex factors affect the readiness of Flight and Support personnel. Those factors must be understood by all concerned and appropriate promeasures and countermeasures established to assure they do not reduce personnel readiness. Personnel shall report any physical indisposition to superiors and assume/resume duty only when fit to do so. Since an individual may frequently be the poorest judge of personal fitness, Commanders shall ensure personnel are adequately observed and appropriate grounding action is taken when necessary. The following requirements shall be considered for all aspects of ARNG aviation:

a. **Circadian Rhythm.** Circadian rhythms and cyclic fluctuations of numerous body functions are set like a "biological clock" to a local time or sleep/awake periods. Changing local sleep/awake periods or rapidly crossing more than three time zones disrupts circadian rhythms and can cause a marked decrease in performance. This condition, called "jet lag", is compounded by illness, fatigue, or drugs, and is resolved only by accommodation to the new local time or sleep/awake period. The accommodation period can be estimated by allowing one day for every hour in excess of three (changed). Accommodation begins when a new daily routine is established. During that period, aircrews are not grounded but can be expected to perform at a less than optimal level. Closer observation by the Flight Surgeon during the period is warranted.

b. **Crew Endurance.** Commanders and supervisors will ensure a crew endurance/crew rest program is in effect (reference AR 385-95, para. 2-16a(2)(a)), including the mandatory provisions of this subparagraph.

The Commander's crew endurance policy shall apply to all soldiers in the aviation command – not just aircrews, but all ARNG personnel that support the aviation mission either directly or indirectly.

(1) **Duty Days** commence when the individual departs their domicile, quarters, or civilian workplace for their military workplace, and terminate when they arrive back at their domicile, quarters, or civilian workplace. Except as noted in paragraph 4-8b(1)(d) below, individuals should not be scheduled for a duty day longer than those in Table 4-1 and the maximum duty time should not exceed those in Table 4-1. At least eight consecutive hours of rest *must* precede the next scheduled duty day for *AMV Drivers* (reference AR 385-55, para. 2-6a), and *should* precede the next scheduled duty day for *all others*.

(a) **Military Duty Day** is when an individual's duty day consists of performing only military duty.

(b) **Combined Duty Day** is when an individual's duty day consists of performing both civilian and military duties. For purposes of this Circular, the term "combined duty day" does not imply a limitation on civilian-specific duties. However, Commanders should consider civilian duties in determining an individual's fitness for military duty (reference AR 40-501, Chapters 4 and 5) (see paragraph 4-8b(2)(b)). A uniqueness of the reserve components of the Army is the coincidence of civilian and military duties in the same day. As such, Table 4-1 includes both military and combined duty day criteria.

(c) **Strategic Napping** is when an individual is directed to get as much rest as possible, and is given a specific time to report back for duty. When these "breaks" are two hours or longer within the same duty day, the duty day clock shall "stop" at the beginning of the break and "resume" at the end of the break.

(d) **Maximum Driving Time.** Duty days that include driving an Army Motor Vehicle (AMV) (reference AR 385-55, para. 2-6) shall not entail driving for more than ten continuous hours. This limitation should also extend to privately owned vehicles (POVs). Rest breaks and meal breaks are part of those continuous hours.

**Note:** AR 385-55 makes no provisions for exceptions, however risk-managed, and does not limit this requirement to "assigned" drivers.

(2) **Factored Flight Time** for ARNG aircrews should be based on: a) Levels of (assessed and briefed) mission risk and their corresponding Risk-Weighted Factors (RWFs) IAW Table 4-1 below; and b) the number of hours flown for that mission.

**Note:** The limiting factor in multiple-mission days is likely to be the maximum duty day, rather than the maximum factored flight time.

(a) RWFs should apply for the entire briefed/approved mission. Actual time flown during the mission, multiplied by the RWF for the mission risk profile, equates to the factored flight time of that mission. In referring to Table 4-1, the rationale: The stress and fatigue experienced in one hour of a Moderate Risk mission is equal to 1.7 hours of a Low Risk mission.

(b) Civilian flight time accrued prior to the beginning of a combined duty day should be factored and applied to the total factored flight time criteria of this Circular. All civilian flight time should be factored at - at least - a Low RWF, or adjusted upward in RWF at the discretion of the individual. For example, a Medical Evacuation Helicopter Pilot flying during the hours of darkness would likely apply a Moderate or higher RWF to their civilian flight time; whereas a Pilot who ferries single-engine fixed wing, fixed landing gear aircraft in Visual Meteorological Conditions (VMC) and under Visual Flight Rules (VFR), would likely apply a Low RWF.

(3) As a means of mitigating the increase in Class A accidents involving ARNG personnel driving home from a drill or an AT period in their POVs, the limitations in/of Table 4-1 (Crew Endurance Guideline) should apply to all ARNG aviation personnel. Seeking waivers and risk-managing exceptions (to the mandatory provisions of Table 4-1 below) by mandating a 14- or 15-hour duty day before allowing an individual to drive their POV home signals the wrong message – considering that same individual is

forbidden from driving an AMV after the twelfth hour (reference AR 385-55, para. 2-6a). Additionally, the third dimension in which aircrews operate their aircraft only compounds the issue. As a countermeasure, Table 4-1 evidences a rapid convergence of the *Maximum Military Duty Day* and *Maximum Combined Duty Day* columns. While continuing to enable traditional Friday night drills, and AFTPs, it serves to stem the principal present-and-contributing factor in the majority of ARNG POV accidents.

TIME PERIOD	MAXIMUM MILITARY DUTY DAY <sup>(1)</sup>	MAXIMUM COMBINED DUTY DAY <sup>(2)</sup>	MAXIMUM FACTORED FLIGHT TIME <sup>(3)</sup>	RWF <sup>(3)</sup>	
				Risk Factor	
24 Hours	12	18	10	Low	1.0
48 Hours	24	24	15	Moderate	1.7
72 Hours	36	36	22	High	2.3
168 Hours (7 Days)	72	72	37	EHR	3.3
30 Days Peacetime	288	288	90		
30 Days Mobilization	360	360	140		

**Notes:**

<sup>(1)</sup>See paragraph 4-8b(1)(a). Maximum military duty day limits in this column are *compulsory for AMV Drivers* IAW paragraph 4-8b(1)(d); and AR 385-55, para. 2-6a.

<sup>(2)</sup>See paragraph 4-8b(1)(b).

<sup>(3)</sup>See paragraph 4-8b(2).

**Crew Endurance Guidelines**  
**Table 4-1**

(4) Factored flight time, driving time, and duty day should be tracked by the individual; monitored by the first-line supervisor for each individual; and spot-checked by the ASO/ASNCO and Commander. The status of each individual should be reported to the Operations Officer (S-3) (or AFTP Supervisor, as applicable) for planning considerations of each mission and operation. Individuals that have not reached their duty day limits or factored flight time limits shall be their own final authority in determining their rested fitness for a given operation or mission. However, those who are within the provisions of the Crew Endurance policy, and the Commander determines they are not rested enough/too tired, may be referred to a proper medical authority IAW AR 40-501, Chapters 4 and 5.

(a) The method of tracking flight time, driving time, and duty day is at the discretion of the local commander, and there is no single preferred method. One suggestion is a comparison of the Training Schedule for the drill (or other training period), showing the planned duty days for each section (platoon, etc.) of the Command, against the Unit's After Action Report (AAR). The absence of noted deviations from the training calendar (relative to hours worked or flown) would suffice as evidence of compliance with the Training Calendar – and in turn, with the Crew Endurance Policy. Another suggestion is the use of a simple calendar sheet or matrix maintained by each individual, their supervisor, or posted in Operations.

(b) In measuring compliance with the (local Commander's) Crew Endurance program, five questions must be satisfied: 1) Has the Commander established a Crew Endurance program that is consistent with applicable regulations (for example, AR 385-55, para. 2-6a) and higher headquarters' guidance? 2) Has the Crew Endurance program been tailored to the local needs of the Unit/Facility relative to METL or Mission Statement? 3) Do the Unit/Facility Training Calendars and Plans indicate compliance with the Crew Endurance Policy? 4) Is there some method in place by which the Training Calendar or Plan is connected to each individual in the Command for conveyance of the Duty Day/Flight Time requirements, and – in turn – does this communication loop provide the Operations Officer with an accounting of Duty performed for planning subsequent operations? And, 5) Is each individual in the Command aware of, and in compliance with, the (local Commander's) Crew Endurance Policy? The macro consideration is *not* whether each individual has a matrix in their pocket with an arbitrary set of numbers plotted on it. Rather, ***is each operation being planned, and is each plan being worked?***

(5) Training Calendars and Operation plans should include a written Risk Assessment that reflects the duty day and driving/flight endurance considerations. Driving commutes to and from the individual's domicile should be considered in the overall risk assessment for training and mission schedules. At the

Unit/Facility level, at least one hour – each way – should be considered an average for planning purposes. Commanders and leaders at all levels should consider the commutes of each individual in their charge when obligating resources for missions and duties. If practicable, missions/operations should be scheduled to terminate within the first two-thirds of the scheduled duty day of each individual involved.

**Note:** Commanders, Operations staffs, and Safety personnel must be mindful of these requirements when committing the Unit/Facility for acceptance of missions, taskings in training schedules, and personnel manning in austere circumstances. “Can-do” and like esprit sentiments have condemned more than one tired aircrew to their final flight.

**c. Additional Factors Affecting Personnel Readiness and Qualifications:**

(1) **Nutrition.** All Flight and Ground Support personnel shall be provided a positive program of information for the establishment and maintenance of good dietary habits. Failure to eat within 12 hours preceding end of flight may impair performance and the ability to adequately control aircraft. Reference DA Pam 600-63-6.

(2) **Exercise.** Planned physical fitness programs promote health. All levels of command are encouraged to establish approved physical fitness programs for all personnel IAW DA Pam 600-63-5, and FM 21-20 (Physical Fitness Training). Due consideration must be given to avoiding contact and other high-risk sports. Adequate rest periods must be provided for aircrewmembers before flying following participation in competitive or particularly tiring sports activity (for example, the Army Physical Fitness Test [APFT]). Twelve hours should normally be adequate.

(3) **Drugs.** According to the Food and Drug Administration (FDA), drugs are defined as a substance other than food intended to affect the structure or function of the body. All Flight and Support personnel shall be provided appropriate information regarding drug use. Reference AR 40-8; DA Pam 600-63-8 (Substance Abuse Prevention); and AC 91.11-1 (Guide to Drug Hazards in Aviation Medicine). The use of illicit drugs is prohibited.

(a) **Tobacco.** Smoking has been shown to cause lung disease, impair night vision, hamper dark adaptation, and increase susceptibility to hypoxia. Smoking is hazardous to nonsmokers, as the effects occur whether the smoke is inhaled directly or secondarily. Persons desiring to smoke shall show due consideration for the desires of nonsmokers in the vicinity and abstain from smoking if asked, and where otherwise prohibited. Further guidance on smoking, in addition to smokeless tobacco concerns, is contained in FM 3-04.301; and DA Pam 600-63-7 (Antitobacco Use).

(b) **Carbon Monoxide (CO).** One of the most insidious affects of tobacco use is the ingestion of carbon monoxide (CO). While FM 3-04.301 and DA Pam 600-63-7 provide insights on its effects, AC 20-32B (Carbon Monoxide [CO] Contamination in Aircraft – Detection and Prevention), provides information on some mechanical causes of CO within aircraft.

(c) **Alcohol.** The well-recognized effects (that is, intoxication and hangover) are detrimental to safe operations. The requirements relative to presence of alcohol are delineated in AR 40-8. Also reference DA Pam 600-63-8.

(d) **Caffeine.** Excessive intake of caffeine from coffee, tea, cola, etc., can cause excitability, sleeplessness, loss of concentration, decreased awareness, and dehydration. Caffeine intake should be limited to not more than 450 mg per day (typically in three to four caffeinated beverages). Reference FM 3-04.301.

(4) **Emotional Upset.** Commanders must remain alert to the emotional and physical status of personnel and take corrective action as may be necessary either for individuals or particular groups (referral for professional evaluation, short standown from flight duties, rest and recreation, leave, etc.). Reference DA Pam 600-63-10; DA Pam 600-70; and FM 22-51.

(5) Factors involving immunizations/injections, blood donation, hypobaric exposure, hyperbaric exposure, pregnancy, dental care, injuries, or illnesses are as defined in ARs 40-3, 40-5, 40-8, 40-16 (Special Notification – Injury Cases), and 40-501.

(6) **Dehydration.** Of all causes of fatigue, one of the most treatable is dehydration. Early stages of dehydration can lead to emotional alterations and impaired judgement. Personnel should be aware: 1) Heavily sweetened drinks should be avoided since sugar can slow the absorption of water in the body; 2) alcohol and caffeine are diuretics and will cause the body to lose more than it gains; and 3) ingestion of plain water throughout the day will reduce the probability of dehydration and resultant fatigue. Reference FM 21-11, FM 3-04.301, and DA Pam 600-63-6.

d. **Spatial Disorientation.** In addition to FM 3-04.301, reference AC 60-4A. This AC serves as an excellent supplement to the FM 3-04.301 discussion on the hazards of disorientation caused by a loss of visual reference with the surface.

(1) **Simulator Sickness.** Simulator exposure can cause perceptual sensory changes that may compromise safety. The experience of symptoms such as nausea, disorientation, and sweating has occurred in commercial and military simulators. Symptoms of simulator sickness may occur during simulator flight and last several hours after exposure. In some cases, the onset of symptoms has been delayed as much as 18 hours. The symptoms have occurred in both motion-base and fixed-base simulators to aircrews as well as console operators. Data suggests that more experienced flight personnel may be at a greater risk, as well as individuals that are new to the simulator. Flight personnel exhibiting symptoms of simulator exposure shall abstain from same-day flying duties. Individuals should not be scheduled to fly for six hours following simulator exposure.

4-9. **Tactical Operations.** Tactical operations shall be conducted IAW the Unit Tactical SOP, applicable regulations and (other) applicable publications. Special considerations must be given to crew selection for tactical operations. Reference TC 1-201 (Tactical Flight Procedures).

a. **Tactical Training Areas, Flight Routes and Landing Areas** should be surveyed for suitability and accuracy of plotted hazards once each 30 days IAW FM 1-300, page 2-7. Areas not currently surveyed will be annotated on the Unit/Facility hazards map, and should be barred from use (typically with a Local NOTAM) pending (re-)current surveillance. The first mission into a training area not currently surveyed should be a daylight mission with the specific intent to perform a hazard(s) survey. No other training or aerial operations should be performed in the training area until the re-current survey is completed - however, the survey may be briefed as a prelude to other mission aspects during the same single flight. Mission briefings will include recent changes to the hazards plotted on the hazards map, and debriefings will include posting newly-identified hazards to the hazards map. Several sources may be considered for updating the hazards map, and are not limited to:

(1) Units flying during a drill weekend may provide hazard information to the AASF for posting to their hazard map.

(2) Unit S-3s may secure Unit hazards map updates from the supporting Facility prior to a drill weekend.

(3) Adjoining Units or even sister Services (for example, Navy, Air Force) may be consulted for recent postings to their hazards maps. When using hazard information from other Units or Services, it is important to understand the nature of the hazards they may identify, based on the types of aircraft flown, altitudes, and missions.

(4) Flight Service Stations, and Airport Manager's offices are typically made aware of recent or long-term hazards in their local areas.

(5) Other agencies, or even private companies, with similar operations may be consulted. For instance, the U.S. Forest Service (USFS), performing firefighting operations, would likely know the latest low-



altitude hazards to terrain flight, and have them posted on a hazards map. Likewise, most Range Controls frequently survey their ranges or installations, and a radio call to Range Control before entering a military reservation is always a good idea – if not mandatory. Utility companies, or the private contractors thereto, often maintain very up-to-date hazards maps for their areas of responsibility or operations. Flight schools, particularly those with rotorcraft, typically maintain accurate hazards maps.

(6) The requirements of this paragraph *do not* direct (that) only an Instructor Pilot or Safety Officer may conduct flights into a training area to survey for hazards. However, the reliability and accuracy of information posted to the hazards map is an Operations (S-3, and to some extent, Intelligence [S-2]), Individual Pilot, and local Command responsibility.

(7) **Wildfire Flight Restrictions**, NOTAMs and other information relative to flight planning can (also) be found on line at <http://avweb.com>. This website has been established by the USFS Bureau of Land Management (BLM) to assist selecting flight routes, landing areas, and other terrain flight considerations. The site also provides a link to a National Aeronautics and Space Administration (NASA) drone that beams real-time images to crews on the ground.

b. **Helicopter Gunnery Range Safety** shall be IAW FM 1-140, Chapter 3, Section III; AR 385-62 (Regulations for Firing, Guided Missiles and Heavy Rockets for Training, Target Practice, and Combat); AR 385-63; AR 385-64 and the applicable Range SOP(s). A Range Safety Officer, Range Safety NCO, and Laser Safety Officer/NCO (as applicable), shall be appointed, and perform their duties, IAW FM 1-140.

(1) **Fratricide Prevention** shall be IAW FM 1-140, Chapter 6, Section I.

#### 4-10. **Laser/Radiation Safety.**

a. Personnel operating on gunnery ranges (aerial, helicopter, small arms, and general munitions) during which lasers will be employed (for example, Aircrews, Range Control personnel with visual contact of the range), shall wear laser glasses or other laser-specific optical protection as/when required by, and IAW, DA Pam 40-506, TB Med 524, FM 1-140, and FM 8-50.

b. Ground Support and Maintenance personnel working on aircraft, individual Aircrewmembers operating the aircraft, and certain others (for example, NBC personnel) may require dosimetry/monitoring as defined by, and IAW, AR 11-9, DA Pam 40-18, NGR 385-11 (Ionizing and Nonionizing Radiation Protection), and TM 55-1500-335-23 due to exposure to engine igniter packs, luminous aircraft dials, various avionics and navigational components, laser range finders, etc. Of particular interest are those involved in radiological nondestructive testing (NDT) in maintenance activities. Also reference AC 43-3, AC 43-7, AC 20-68B, AC 120-61, and AC 121-21B.

c. The ASO/ASNCO shall, when required, ensure ordering of the laser safety glasses through the Unit/Facility S-4, and enrollment of aviation personnel in a dosimetry/monitoring program through the OHN or Industrial Hygienist.

d. The Flight Surgeon shall monitor the Unit/Facility dosimetry/monitoring program.

#### 4-11. **Explosives and Pyrotechnics.**

a. **Preflight.** Aircrews will ensure wingstores, canopy jettison, and fire bottle activation devices are in the correct position during preflight and startup/runup checks. Those aircraft that are limited in their operation by inoperable canopy jettison devices shall be equipped with breakout knives. Helicopter weapon systems shall be verified as cleared and safed IAW the appropriate Operator's manual and Unit/Facility SOP checklists.

b. **Intentional activation** of wingstores, canopy jettison, or fire bottle activation devices is an emergency procedure, and requires the coordination of all crewmembers on board. The crewmember activating such

devices shall ensure all crewmembers are clearly and plainly notified of such intention prior to activation. Of particular concern is the activation of such devices in the presence of fuel fumes, fuel mist, or puddled fuel. As such, jettison devices will not be activated in the presence of such environments, and not until the area surrounding the aircraft is cleared. Arming, firing and dearming/safing of attack helicopter weapon systems shall be briefed and performed IAW the appropriate Operator's manual, and ATM, FM 1-140, and Unit/Facility SOP checklists. Ammunition and explosives, otherwise, will only be carried on board, or discharged from, ARNG aircraft IAW AR 95-27 (Operational Procedures for Aircraft Carrying Hazardous Materials), AR 95-1, FM 1-140, and the Unit/Facility SOP. Also reference 49 CFR (Transportation), Subchapter C (Hazardous Materials Regulations), AC 121-21B, and AC 121-27.

c. **Shutdown and Postflight.** The Aircrew shall ensure all wingstores, canopy jettison, and fire bottle activation devices are in the correct off/safe/dearmed position during the shutdown and postflight sequences. Maintenance Teams will likewise ensure these systems are off/safe/dearmed prior to undertaking required maintenance or operational procedures. Helicopter weapon systems shall be verified as cleared, safed/dearmed IAW the appropriate Operator's manual (and ATM), FM 1-140, and Unit/Facility SOP checklists.

d. Except as provided in paragraph 4-14 of this Circular: ARNG aircraft will not be boarded by other than qualified (in the specific aircraft) Aircrews or Maintenance crews specifically trained and briefed in the hazards of the wingstores, canopy jettison, and fire bottle activation devices on board the aircraft; except:

(1) Under limited Public Affairs/Relations circumstances, certain others may be permitted access to ARNG aircraft. In the case of dignitary flights, static displays, spouse orientations, etc., it must be remembered ARNG aircraft are instruments used to fight the nation's wars. Wingstores jettisons are typically activated using shotgun cartridge charges. Canopy jettison devices are shaped charges embedded around the periphery of each side canopy pane that burn at extremely rapid rates, and explode the canopy panes into countless Plexiglas shards several meters aside the aircraft. Fire bottles may be suddenly discharged in wide dispersal patterns. Considering these hazards to the trained aircrew or Maintenance team, it is easy to understand how dangerous they may be to those untrained or not in uniform. Additionally, a misplaced foot may destroy thousands of dollars in stowed helmet sight systems; and an unintentional grasp may dislodge critical aircraft components. To that end, no person may board an ARNG aircraft without direct supervision of a qualified aircrewmember or Maintenance representative, and the specific authority of the cognizant Briefing/Operations Officer. And, under no circumstances will other than authorized Maintenance personnel board an aircraft undergoing maintenance.

**Note:** Also see paragraph 5-4c(1)(g) of this Circular regarding FOD concerns at certain Public Affairs/Relations events.

e. Additional considerations are noted in AR 190-11 (Physical Security of Arms, Ammunition, and Explosives).

4-12. **Bird Strike Avoidance** and conditions of the AO relative to known or forecasted migratory bird activity should be sought and briefed by the Operations Officer prior to each mission. Avoidance techniques shall be IAW the AIM, Chapter 7, Section 4; and FM 1-400, para. 2-5c. Also reference Air Force Pamphlet (AFPAM) 91-212 (Bird Aircraft Strike Hazard [BASH] Management Techniques); AC 150/5200-32 (Announcement of Availability: Bird Strike Incident/Ingestion Report); and AC 150/5200-33 (Hazardous Wildlife Attractants on or Near Airports).

4-13. **Collision Avoidance** shall be integral to each briefing during multi-ship operations, or in high-density aircraft operations environments (reference TC 1-201, Chapter 7; and FM 1-400, para. 2-24). Reference AC 90-48C (Pilots' Role in Collision Avoidance).

4-14. **Passenger and Troop Carrying Operations.** The PC will ensure all passengers and crewmembers are briefed (see paragraphs 1-6s(1) and 1-6s(2)).

a. The Operations Officer or their designee shall (also) ensure troops are briefed prior to a tactical troop movement. Coordination between the supported Unit, and Operations will be necessary to accomplish a thorough troop briefing. Briefings shall consider and entail all expected aspects of the mission – from troops to dignitaries – including discussion of landing in places not normally utilized by the Unit/Facility for pickup/drop-off of each type of passenger.

b. Some dignitaries may require seat belt extensions, motion discomfort bags, or other considerations. The PC shall instruct individuals, and shall ensure, whenever approaching or leaving a helicopter that has its blades rotating, all personnel shall remain in full view of the Pilot(s) and keep in a crouched position (reference 29 CFR 1910.183). While attack aircraft do not ordinarily operate with other than a qualified PC and Pilot (PI), provisions shall be made in the SOP (for those Units/Facilities with attack aircraft) for (albeit rare) dignitary flights (for example, a State AG, or Governor). Likewise, this requirement extends to those Units/Facilities operating aircraft normally equipped for passenger and troop carrying operations.

c. All required life support equipment shall be worn by each crewmember and passenger, as applicable. During flight, all rotary wing passengers and crewmembers should wear their sleeves down and collars up. Fixed wing passengers and crewmembers shall wear their sleeves and collars as briefed by the PC. Identification tags will be worn by all military personnel.

**4-15. Night Operations.** Night operations include unaided night, and Night Vision Device (NVD) operations. The Unit/Facility Commander shall ensure adequate support and training times are provided in each of these areas. NGB has the responsibility to assist each State/Territory AG in acquiring and maintaining adequate night training facilities. SAAOs shall have the responsibility to ensure adequate training facilities are available within the State/Territory.

a. Illumination data, a key component in the planning of night missions and operations, can be found on line at [http://aa.usno.navy.mil/data/docs/RS\\_OneYear.html](http://aa.usno.navy.mil/data/docs/RS_OneYear.html) or <http://indigo.ie/~gnugent/dns0/>.

**4-16. Pre-Accident Plan.** A current pre-accident plan, tailored to local needs, will be established and maintained IAW AR 385-95. It will also entail ground accident considerations, and the requirements for an Emergency Action Plan, and Fire Prevention Plan, IAW AR 420-90, FM 5-415, and 29 CFR 1910.38. Also reference AC 150/5200-31A. The Operations Officer is responsible for the development of the pre-accident plan in support of the Unit/Facility/tactical needs. The plan will be coordinated with all activities having similar or related functions.

a. The pre-accident plan (crash alarm) shall be prepared using AR 385-95, para. C-1, as a *minimum baseline*. The primary crash alarm net (see **Note** below) will be tested daily (for each day flight, or when ground operations, are in effect), the overall plan tested and systematically rehearsed quarterly, and the tactical plan tested the first day of annual/field training exercises. A record of this testing shall be maintained by the Operations Section of the Unit/Facility, and a copy of such record(s) furnished to the Unit/Facility ASO at least quarterly (also see paragraph 3-7c(1) of this Circular regarding pathology and chain-of-custody criteria).

**Note:** The Primary Crash Alarm net is as defined by the local Commander. In many cases, a commercial phone line serves this need. Others may utilize a cellular phone, a field phone, or a “hotline” to a Fire Station. The daily test may range from checking for a dial tone, to actual contact with each party on the primary crash alarm net.

(1) Pre-accident plan telephone numbers and radio frequencies shall be verified as current and correct at least quarterly. Additionally, the procedures for overdue aircraft shall be clearly denoted. For overdue aircraft: Once the immediate actions of radio calls, a ramp check, and calls to the local FAA Flight Service Station (FSS) or Range Control have been executed, the Operations Officer shall contact the nearest Air Route Traffic Control Center (ARTCC) to secure low- and high-altitude (as applicable) radar plots to assist in pinpointing the likely location of the downed aircraft.

(a) While the format of the pre-accident plan must meet the criteria described in paragraph 4-16a above, the U.S. Department of Agriculture (Forest Service), and U.S. Department of Interior, have adopted an Interagency Aviation Mishap Response Plan. This plan covers details that are common to Army aviation accidents, in addition to providing (more) details on National Transportation Safety Board (NTSB) actions and activities, is available online at <http://www.oas.gov/oassafety/library/iamrp.htm>. It is important to note many NTSB provisions *do not ordinarily apply*, and this Interagency Aviation Mishap Response Plan is highlighted here only as an additional information source.

(2) The pre-accident plan must clearly state instructions for notifications of next of kin (NOK) in the event of an overdue aircraft or an accident. Notifying a Chaplain and a State headquarters may take hours, and place Operations personnel in the awkward position of having to answer a spouse's phone call as to whether it was their loved one that they are looking at on the evening news. The NOK notification sequence(s) must be clearly defined, timely and accurate, entail current phone numbers (and NOK) for each individual engaged in a/the briefed mission, and be specific inclusions during each rehearsal of the pre-accident plan. There must be no question in terms of "Will we call a Pilot's home if there's been a crash?" in abiding HQDA guidance. For that reason, the pre-accident plan should be prepared with consideration of local police NOK notification protocol and procedures to deconflict and clarify which agency(ies) will make notifications, and to avoid NOK being notified by a local police officer rather than through military officials. Also reference FM 3-61.1 (Public Affairs Tactics, Techniques and Procedures).

(3) Pre-accident plans shall include provisions for storage of wreckage, once removed from the accident site, and for the duration of the investigation processes required by the AIB, the collateral board, and the litigation processes performed by/in concert with the JAG. When selecting such storage sites and facilities, States should consider that some collateral and litigation actions may approach five years in duration. Wreckage stored in a cordoned-off portion of a hangar or other common access area is likely to have a demoralizing affect on the organization experiencing the accident. Consideration should be given, when selecting storage sites, to the degree of isolation (from general traffic) required, wreckage security (to include pilferage considerations), weather resistance, lighting, MOAs/MOUs required to secure use, cost of storage facilities, etc. Individual circumstances will dictate the range of suitability of storage site from an open "bone-yard" to a secured military hangar. Paramount of the concerns to be considered, however, is security of the wreckage.

(4) The pre-accident shall also detail those actions necessary to dispose of any wreckage or residue *once released by the AIB President, the Collateral Board President, and the cognizant JAG*. Consideration must be given to Advanced Composite Materials (such as those from burned Kevlar panels or fragmented aircraft rotor blades); bloodborne pathogens; radioactive contamination (such as those from cracked engine igniter packs); unaccounted-for or unexploded ordnance; detonation/explosive devices (such as canopy detonation cords or wingstore jettison cartridges); HAZMAT (such as leaking fuel or gearboxes); and various other concerns. Provisions must be included in the SOP for location of recovered wreckage both during the investigation, and afterward pending disposal activity. Unit/Facility spill plans must also include actions required to not only contain accident-related spills, but to remove contaminated soil or other surfaces during removal of the wreckage - to include restoration of the affected area to its original condition. Once released by the AIB President (and following coordination with the Collateral Board President, and cognizant JAG - for any litigation that may be pending, as applicable), the cognizant SAAO submits a request for disposal of aircraft wreckage or wrecked components through NGB-AVS-A to AMCOM. AMCOM then returns the approved request to NGB-AVS-A, who then issues the disposition (for disposal) to the SAAO.

b. **Agreements** should be established between Units/Facilities and local airports, municipal fire-fighting organizations, and medical facilities, regarding response to emergencies occurring off/on government property, IAW AR 420-90, TM 5-315, and FM 5-415 (see paragraph 2-7c of this Circular). Reference AR 420-90, Figure 2-1, for a sample format of such agreements.

4-17. At least once each year, The Unit/Facility Radiological Control Officer (RCO), in consultation with the Unit/Facility S-4, shall send a memorandum (or letter) to each local Fire Chief (military and civilian) as to the location, type and quantity of radioactive material stored in the armory/facility. A copy of this

memorandum shall be furnished to the State/Territory RCO, Unit/Facility Safety Officer, State/Territory Safety Manager, State/Territory OHN, State/Territory Industrial Hygienist, and cognizant Materiel/Supply personnel. This memorandum may be consolidated with that required for conveyance of the location, type and quantity of explosive or pyrotechnic materiel referenced in AR 385-64. Appendix M of this Circular provides a sample Stored Radiological Material/Fire Chief Memorandum/Letter.

4-18. Units/Facilities are authorized to host annual (or more frequent) open house meetings with local Fire and Rescue agencies (and select other like-agencies) to exchange first-hand information about capabilities of the supporting fire and rescue equipment, emergency aircraft shutdown procedures, aircrew extraction, fire fighting and spill considerations involving Unit/Facility aircraft and vehicles, etc. The scheduling and organization of such open house meetings shall be in consultation with affected/cognizant Unit/Facility Physical Security, Intelligence (S-2), and Public Affairs Officers (PAOs).

4-19. **Special Aviation Operations.** Commanders will ensure appropriate regulations, publications and SOPs are adhered to and/or developed to plan for contingencies that may arise. These contingencies are based on expected missions congruent with the Unit METL/Facility Mission Statement.

a. **Additional Operational Considerations.**

(1) **Aircraft Weight and Balance** shall be performed IAW AR 95-1, Chapter 7; DA Pam 738-751, para. 1-25; TM 55-1500-342-23 (Army Aviation Maintenance Engineering Manual – Weight and Balance); and other applicable Technical Manuals, bulletins and publications. Also reference AC 120-27C (Aircraft Weight and Balance Control); and FAA Handbook FAA-H-8083-1 (Aircraft Weight and Balance Handbook).

(2) **Helicopter Dynamic Rollover** considerations shall be IAW FM 1-203 (Fundamental of Flight), para. 7-13c; and other applicable Aircraft Operators Manuals and ATMs. Also reference AC 90-87 (Helicopter Dynamic Rollover).

(3) **Aircraft Wake Turbulence** considerations shall be IAW the AIM, Chapter 7, Section 3. Also reference AC 90-23E (Aircraft Wake Turbulence).

(4) Operations in **Atmospheric Turbulence** shall be IAW AR 95-1, para. 5-2c(2); FM 1-202 (Environmental Flight), Chapter 4; and the AIM, para. 7-5-5i. Also reference AC 00-30B (Atmospheric Turbulence Avoidance); and AC 00-57 (Hazardous Mountain Winds and Their Visual Indicators).

4-20. **OHRs.** Reporting hazards is a vital means of reducing mishaps. Unfortunately, many hazards that increase Unit/Facility aircraft exposure are unreported or under-reported due to complacency of both Aviators and supervisors. Like the DA Form 4755, the OHR is one of the avenues available to individuals for making such reports. OHRs will be submitted to the ASO for thorough investigation. Appropriate recommendations will be submitted to the Commander. When corrective action cannot be taken at the Unit/Facility level, the report will be forwarded through successive Safety Council channels to the command level at which corrective action can be taken. Detailed instructions for processing the OHR are IAW AR 385-95, para. 2-1. Blank OHR forms will be conspicuously placed at the Unit/Facility Safety Bulletin board for use by all personnel (see paragraph 3-4d(2)(g) of this Circular). They may be submitted anonymously.

a. Also reference AC 00-46D (Aviation Safety Reporting Program), regarding a cooperative safety reporting program that invites Pilots, Controllers, Flight Attendants, Maintenance personnel, and other users of the National Airspace System (NAS), or any other person, to report actual or potential discrepancies and deficiencies involving safety of aviation operations. The operations covered by the program include departure, en route, approach, and landing operations and procedures, air traffic control procedures and equipment, crew and air traffic control communications, aircraft cabin operations, aircraft movement on the airport, near midair collisions, aircraft maintenance and recordkeeping, and airport conditions or services.

b. **Near Misses.** Or, more correctly, Near Hits, may be recorded on an OHR, a NASA Form ARC 277B (available on-line at [http://asrs.arc.nasa.gov/forms\\_nf.htm](http://asrs.arc.nasa.gov/forms_nf.htm)), or any other appropriate form (or a blank sheet of paper in free form). For purposes of this Circular, any situation that stopped short of resulting in an actual mishap – air or ground – is considered a Near Miss. Near Misses may be submitted anonymously. All such reports not processed IAW AC 00-46D should be routed to the Unit/Facility ASO as an agenda item for the Safety Council. Considering mere inches or moments separate a Near Miss from a catastrophe, the Safety Council will treat all such reports with the same gravity as a Class A accident, and respond appropriately.

c. ASOs may furnish reports of Near Miss occurrences, with appropriate corrective action(s), through their Chain of Command (or succeeding echelons of Safety Councils), to NGB-AVS-SA, which shall determine suitability for further distribution (and the appropriate medium [for example, ASOListserver, All-States Letter]).

4-21. **DA Forms 4755** shall be processed IAW NGR 385-10 and AR 385-10.

4-22. **Ground Vehicle Operations.** All vehicles will be maintained, checked daily (as required), and operated IAW AR 385-55, AR 600-55, FM 21-305 (Manual for the Wheeled Vehicle Driver), NGR 385-10, AR 385-10, TM 1-1500-204-23-1, and other applicable manuals and regulations. Drivers shall be properly selected, trained, tested, and licensed for each vehicle they are to operate. The Driver is the final authority on whether or not a vehicle is safe to operate. However, IAW AR 600-55, the senior-ranking occupant of each vehicle is ultimately responsible for the safe operation of that vehicle. All required safety equipment (for example, fire extinguishers) will be inspected and determined to be operational prior to vehicle operation. During tactical vehicle operations, including other than administrative over-the-road (OTR) convoys, all vehicle Drivers and Co-drivers will wear Kevlar helmets with chin straps secured around the chin. Combat vehicle (for example, M-113s) Operators will wear cranial protection at all times when operating the vehicle. During tactical/field operations, passengers in AMVs will wear Kevlar helmets with the chinstraps secured around the chin. The supervisor of vehicle dispatch will ensure the driver assigned to a vehicle is fully qualified to operate that vehicle and has a current military driver's license and requisite endorsements. This requirement also extends to civilian and contractor personnel. All convoy operations will have an Officer or NCO in charge and assistant drivers assigned. All participating personnel will receive a thorough mission and safety briefing prior to initiating the operation. Restraint systems will be used at all times when the vehicle is in motion, if vehicle is so equipped. Posted speed limits and designated maximums for specific vehicles and conditions will be observed at all times. Ground guides will be used for all operations in close quarters and when danger to personnel exists. Ground (motor) vehicle operations in the vicinity of aircraft shall be IAW AR 385-55, para. 2-20.

a. Installation commanders are authorized to define tactical operations and boundaries. This determination shall be consistent with AR 385-55, para. 2-18.

b. **Additional Ground Considerations.** Kevlar helmets will be worn by all ARNG personnel erecting or striking camouflage nets or tents. Those erecting or striking tents will also wear gloves.

4-23. **Snow and Ice Removal.** Units and Facilities affected (by snow and ice) will develop Snow and Ice Removal plans for aircraft and (their) home airfield/AO IAW FM 1-300, para. 3-3f. Reference AC 150/5200-30A, AC 150/5220-20 (Airport Snow and Ice Control Equipment), and TM 1-1500-204-23-1. Units deploying to locales affected by snow and ice will develop a snow and ice removal plan prior to deploying.

4-24. **Publication Improvements.** The Commander will supervise the publication improvement program, utilizing the DA Form 2028. Blank forms will be posted on the Safety Bulletin board (see paragraph 3-4d(2)(g) of this Circular), in the Maintenance office, in Operations, and other Unit/Facility areas (at the discretion of the Commander). All DA Forms 2028 will be submitted IAW the instructions for the specific publication (or DA Pam 25-30 [Consolidated Index of Army Publications and Blank Forms]; or NG Pam 25-31 [Administrative Guidance for the Receipt of NGB Publications and Blank Forms], for blank forms), with a copy to the Unit/Facility individual most cognizant of the affected publication or form, and the

Unit/Facility Publications Officer/NCO. Also reference AR 25-30, para. 2-60. The Unit/Facility Publications Officer/NCO shall follow-up the status of the DA Form 2028 if no response from the proponent is received within 30 days after original submission.

## Chapter 5

**Maintenance Considerations.** This chapter defines: Usage of the QDR/EIR system as it applies to ARNG Aviation; explains the Teardown analysis program and AOAP as they likewise relate; defines the ARNG FOD program; defines fall protection and its elements; POL Operations considerations; Laser/radiation safety; and aircraft and equipment parking.

### 5-1. Quality Deficiency Report (QDR)/Equipment Improvement Recommendation (EIR) System.

This program is administered in accordance with DA Pam 738-751. The Unit/Facility ASO (depending which organization had control of the aircraft at the time of the failure) shall ensure submission of an SF 368 IAW DA Pam 738-751 for each Materiel failure IAW AR 385-40, DA Pam 385-40, and this Circular. At the risk of some minor duplicity, this requirement is in addition to, and in concert with, that stipulated in any (civilian maintenance) contractual agreements. Components against which a QDR/EIR have been submitted shall be held in bond by the Unit/Facility AMO pending disposition by AMCOM. Also reference AR 702-7-1, AR 702-17, AR 702-7, and paragraph 3-7g of this Circular.

a. Maintenance Information Messages (MIMs), often triggered by QDRs, are available from AMCOM online at: <https://webdesk.redstone.army.mil/> or <http://aeps.ria.army.mil/>. Additionally, Safety of Use Messages (SOUTs) and Ground Precautionary Messages (GPMs) are available from the same agency at <https://aeps2.ria.army.mil/safety1.cfm>.

b. Another excellent QDR-like program is outlined in AC 20-109A (Service Difficulty Program [General Aviation]). Certain military aircraft have direct civilian counterparts, and participation in this program is encouraged.

c. Additionally, reference AC 21-29B (Detecting and Reporting Suspected Unapproved Parts). AMOs and those administering aircraft parts must be vigilant for the possibility of accepting and employing unapproved parts, particularly for those with civilian aircraft applications.

**Note:** This does not imply aircraft parts may be purchased through other than official and authorized procurement channels and sources.

5-2. **Teardown Analysis Program.** The teardown analysis program is an important part of (an) effective aircraft mishap prevention and investigation program(s). Too frequently, this program is limited to aircraft parts suspected of contributing only to aircraft mishaps. Unit/Facility AMOs often fail to submit components or parts that are suspected of contributing to forced or precautionary landings for teardown analysis. It is imperative that Units/Facilities also submit parts involved in Class D or E mishaps for teardown analysis, when warranted. An active analytical program can identify materiel failures and component designs that might cause a Class A, B, or C mishap. Once the problem has been analyzed, corrective action can be taken. A lack of Unit participation will have a damaging effect on the overall aircraft mishap prevention program of the Unit/Facility and the Army. DA Pam 738-751 (pages 65-66), AR 385-95, FM 3-04.500, AR 385-40, and DA Pam 385-40 outline the procedures involved in selecting and submitting aircraft components and parts for teardown analysis. Also reference AC 20-95 (Fatigue Evaluation of Rotorcraft Structures).

5-3. **Army Oil Analysis Program (AOAP).** The AOAP is a coordinated Army-wide effort to detect impending equipment component failure through analytical evaluation of oil samples. The policy, objectives, and responsibilities for conducting the program are outlined in AR 700-132 and AR 750-1. Complete information and instructions on use of the program are found in TB 43-0106. The AOAP is applicable to all commands, Units/Facilities, installations, and activities that operate Army aircraft. All oil-lubricated systems of the aircraft, as defined in TB 43-0106 and accompanying messages, are monitored. Participation in the program is mandatory.

5-4. **FOD Prevention Program.** Unit/Facility FOD prevention functions and programs shall be IAW AR 385-95; and this Circular. FOD prevention programs are, by definition, safety-related programs, but not safety (specific) programs. The functionality of FOD prevention is more purely a cooperative effort of Maintenance, Operations, and Logistics. Units/Facilities are required to publish a separate FOD Prevention SOP *only to the degree necessitated by particular and unique requirements beyond that established herein: This text shall not be repeated in its entirety by each ARNG Unit/Facility.* FOD program functions may be consolidated/shared no higher than Battalion/Squadron level, at locations where subordinate elements of the Battalion/Squadron are collocated. When consolidating functions within a Unit, the Unit SOP should clearly define how, and by whom, the required components of the FOD prevention program are treated (for example, “The motor pool will be policed and surveyed by A Co., the flight ramp by B Co.”). When sharing functions between a Facility and supported Units, a MOA/MOU between the two agencies should clearly denote how, and by whom, the required components of the FOD prevention program are treated (for example, “Once each month, the AASF shall police and survey the north and south hangars. Once each drill or once each month, whichever is less frequent, 1-211 BN shall police and survey the flightline, and D/1-189 shall police and survey the motor pool and fuel depot areas.”). See Appendix I of this Circular.

a. **Unit/Facility FOD Prevention Quarterly Meetings** are no longer required, but are still authorized. The functions of the FOD Prevention Quarterly Meetings should be wholly incorporated into the Unit/Facility Safety Council(s) (see paragraph 3-3k(3) **Note** of this Circular). During such incorporation, the membership of the Safety Council denoted in paragraph 3-3 of this Circular is not otherwise affected.

b. **Managing the FOD Program.** The FOD prevention program includes:

- (1) Evaluating FOD trends to find areas that need managing;
- (2) reviewing accident reports to determine types of FOD and prevention measures;
- (3) setting up an active FOD exchange-of-information program (between other Units/Facilities/activities, including industry and other services) and providing pertinent information to adjacent and subordinate Units/Facilities. Particular emphasis is between TDA Facilities and their supported Units;
- (4) ensuring FOD prevention is made an area of interest during visits by Maintenance, Logistics, or Safety Assistance teams;
- (5) ensuring FOD prevention is emphasized within the Unit/Facility and personnel are adequately trained at the operating level;
- (6) assigning specific areas of responsibility (for example, hangar, shop, parking area, run-up area, wash rack, and ramp) to appropriate Unit/Facility personnel. Responsible individuals will conduct and document frequent inspections to ensure the FOD program is viable and working; and
- (7) related tasks for all personnel including:
  - (a) Performing maintenance tasks according to technical data;
  - (b) ensuring aircraft openings, ports, lines, hoses, and ducts are properly plugged, bagged, or capped to keep foreign objects from entering critical aircraft openings;
  - (c) ensuring all tools, equipment, and hardware are accounted for at the end of each maintenance task;
  - (d) using care when placing test equipment;
  - (e) inspecting equipment before use to make sure it does not cause FOD (for example, rivet set faces clean of metal chips before riveting);



(f) checking engine inlet screens for loose or trapped objects and for broken wires before and after each installation;

(g) reporting FOD and potential FOD that cannot be promptly corrected to immediate supervisor;

(h) keeping all working areas clean and free of debris;

(i) thoroughly checking the work area after each task is complete;

(j) placing all hardware residue in containers and placing stands and equipment in their assigned storage areas;

(k) keeping areas free of litter and picking up litter when seen during task performance; and

(l) using magnetic or mechanical vacuum sweepers for aircraft parking ramps, taxiways, runways, run-up areas, and other areas vulnerable to FOD.

c. **Responsibilities.** Specific responsibilities in regard to FOD prevention operating procedures:

(1) **The Commander** will:

(a) Appoint an Officer (other than the ASO, ASNCO, or AMO) on orders, at Unit/Facility level to be responsible for implementing the FOD prevention program;

(b) ensure Units, sections, and Detachments check their areas of responsibility at least once each operational day. This is a visual check of the work area, and is not to be misconstrued as a formal FOD survey, as discussed herein;

(c) periodically inspect and supervise the FOD prevention program;

(d) comply with the FOD-reporting procedure (see Question 19 in Appendix L of this Circular) to Unit/Facility level or higher and take corrective action where FOD potentials and trends exist;

(e) ensure all incoming personnel are briefed on their responsibility for FOD prevention;

(f) ensure supported non-aviation personnel are briefed on the importance of FOD prevention;

(g) ensure the specific measures to preclude FOD at certain Public Affairs/Relations events (for example, aircraft static displays) are discussed and briefed prior to mission approval. Such concerns may include FOD being deposited in uncovered/unscreened engine intakes, debris left near flight controls, Dzus fasteners unfastened, etc.;

(h) provide adequate clothing and equipment for use in maintenance areas that ensures FOD prevention (for example, sewn-on rank insignia rather than pin-on rank insignia; coveralls with covered pockets when removal of contents is impractical);

(i) ensuring personnel use only U.S. Government-procured tools, no personal tools are used on ARNG aircraft, nor are personal tools maintained/stored in ARNG Units/Facilities; and

(j) provide adequate FOD containers throughout maintenance and flightline areas.

(2) **The ASO** will:

(a) Continuously monitor and survey the command FOD prevention effort; and

(b) ensure all safety meetings address FOD prevention.

(3) **The AMO** will:

- (a) Incorporate FOD prevention in all maintenance training;
- (b) ensure individual maintenance areas are cleaned at least once during the (operational) day. Recommend appropriate corrective measures where warranted by adverse conditions or trends, hazardous procedures, or other inadequacies of FOD prevention effort;
- (c) ensure no food or beverages are present in the workplace (for example, hangars [other than breakrooms], motor pool bays, allied shops, in/on toolboxes). Reference 29 CFR 1910.147. This is as much a hazard to the individual (potentially ingesting toxins that the food or beverage may be exposed to) as it is a FOD hazard to the aircraft;
- (d) ensure the immediate area of an aircraft is cleaned after maintenance to ensure all debris (for example, safety wire, paper, rags) is picked up, and no hardware or part was inadvertently omitted during a maintenance function; and
- (e) ensure supervisors complete the following practices after each workday:
  - 1. Account for tools after each maintenance operation, and ensure inventory of toolboxes at prescribed intervals;
  - 2. turn in special tools;
  - 3. cap all oil, hydraulic, fuel and other lines, including (capping/bagging of) wiring (bundle) ends;
  - 4. properly dispose of used cans of lubricants (reference AR 200-1; AR 200-2; FM 3-04.500; and FM 3-100.4); and
  - 5. place covers or a cap (or bag, as appropriate) over those items susceptible to FOD.

(4) **The FOD Control Officer/NCO** shall:

- (a) Check parking ramps, taxiways, and engine run-up areas and other maintenance and storage areas for cleanliness and conditions of surface. Record of these checks, using the form in Appendix N of this Circular (or some likeness thereof, electronic or hard-copy), listing deficiencies noted and corrective action taken, will be forwarded to the ASO for trend analysis and hazard tracking. The original survey form(s) shall be maintained by the FOD Officer/NCO IAW AR 25-400-2. Additionally, copies of the survey form(s) shall be distributed IAW the Unit/Facility SOP and/or applicable MOA/MOU;
- (b) with the Airfield Operations Officer (as applicable), ensure active runways and taxi areas are checked daily (during operational days) for debris and surface conditions. Also reference AC 150/5380-5B, AC 150/5200-18B (Airport Safety Self-Inspection), and FM 3-04.500;
- (c) check mechanical and magnetic sweeping operation to ensure its effectiveness;
- (d) check ramps of paved airfields or heliports daily to ensure foreign objects are not being carried onto the flight line or into hangars by vehicles;
- (e) inspect pavement cracks and expansion joints (reference Unified Facilities Criteria [UFC] 3-260-01 [Airfield and Heliport Planning and Design], and TM 5-826-6 [Procedures for U.S. Army and U.S. Air Force Airfield Pavement Condition Surveys]), pavement engineering, for debris the mechanical or magnetic sweeper have missed. Also reference AC 150/5200-18B. Advise the Commander when cleaning by hand (for example, a FOD walk) is needed;

(f) advise the Commander (typically during a Unit/Facility Safety Council meeting) when mechanical sweepers are needed but not available; or available and needed, but not used;

(g) with the local Facility (or State/Territory) Engineer (as applicable), ensure construction personnel are advised about FOD prevention when working in aircraft maintenance parking and operational areas;

(h) check for debris pickup;

(i) ensure there are FOD containers in the area and they are periodically emptied. FOD containers on the flightline shall be marked appropriately with HI-VIS tape, secured, and have a stay-shut lid (reference TM 1-1500-204-23-1, and TM 1-1500-204-23-9);

(j) spot-check general housekeeping in work areas;

(k) ensure operations in straw or loose grass environments are noted, as required, on DA Forms 2408-13-1 (Aircraft Inspection and Maintenance Record), IAW applicable aircraft Operator's manuals;

(l) observe individuals at work on FOD prevention;

(m) spot-check to see that open aircraft, engine, electrical ends and fluid lines are secured with proper plugs, bags, or caps to prevent foreign objects from entering;

(n) ensure a red "Remove Before Flight" warning flag/streamer is affixed, as applicable or required, to all aircraft rigging tools, weapons system safeties, covers, and tiedowns (except mooring chains) (reference TM 1-1500-250-23 [Aviation Unit and Aviation Intermediate Maintenance for General Tie-Down and Mooring on all Series Army Models AH-64 UH-60 CH-47 UH-1 AH-1 OH-58 Helicopters], Chapter 3), and such (flagged) items are removed before operation/flight;

(o) check engine run-up areas for cleanliness;

(p) discuss the FOD program with supervisors;

(q) observe personnel at work around aircraft with engines running for safe practices;

(r) spot-check personnel during the performance of aircraft intake and exhaust inspections for proper clothing (for example, sewn-on rank insignia and emptied or closed-flap pockets) and loose personal items (for example, eyeglasses, identification tags/badges);

(s) check conditions from previous FOD accident/incident reports. This action ensures a closed-loop corrective action process for previously identified shortcomings;

(t) review FOD reports for trends;

(u) review Unit/Facility FOD training programs. Provide help where needed;

(v) with Flight Operations, ensure crews are briefed on potential and actual crew-caused FOD; and

(w) check for compliance with this Circular, the Unit/Facility SOP, and local supporting plans on FOD.

**5-5. Fall Protection.** The essence of 29 CFR 1910.66, Appendix A; 29 CFR 1960.1; and 41 CFR, Volume 2, chapter 101-37.12; are met (with regard to fall protection) by compliance with the following:

a. When working more than ten feet from the ground on aircraft (including pre- and post-flying) in maintenance hangars, all ARNG personnel shall use the fall protection provided, and required by, TM 1-1500-204-23-1, TM 1-1500-204-23-9, and the various other applicable aircraft Technical Manuals.

b. When working more than ten feet from the ground on aircraft (including pre- and post-flight) on maintenance pads, parking aprons and washracks, all ARNG personnel shall use the fall protection that is reasonably available IAW TM 1-1500-204-23-1, TM 1-1500-204-23-9, and the various applicable aircraft Technical Manuals. For purposes of this Circular, and in clarifying the requirements of TM 1-1500-204-23-1, “reasonably available” requires the professional discretion of the individual(s) involved. For instance: Hand-pushing a maintenance stand across a flight ramp covered in a layer of ice *is not* “reasonably available.” Moving an arrow stand by hand, that is designed to be moved by a tug, *is not* “reasonably available.” Moving pettibone cranes solely for use of a boatswain's chair *is not* “reasonably available.” However, moving a ladder or maintenance stand, that is designed to be moved by hand, across a dry ramp, up to 150 feet away (from the aircraft being attended) *is* “reasonably available.” In any event, care must be exercised in securing safety devices to or around aircraft solely for fall protection – it is highly possible to create a more hazardous condition in tying-off lanyards to aircraft components than the original risk of a fall from the aircraft posed.

c. When working on aircraft (including pre- and post-flight) on other than home garrison maintenance pads, parking aprons and washracks as noted above (for example, at a transient airfield or a field training environment), fall protection (regardless of height above the ground) is defined as maintaining “three points of contact” (that is, one hand and two feet or two hands and one foot) on the hand holds, foot accesses/recesses and walking/working surfaces designed into/provided on the aircraft (reference TC 21-306 [Tracked Combat Vehicle Driver Training], page 3-8). Further fall-restraint device usage is at the discretion of the cognizant Maintenance Supervisor or PC. The number of accidents recorded as falls from ARNG aircraft is statistically insignificant, and every effort must be made to ensure continuation of such.

d. Personnel operating (in/on the working surfaces of) manlifts, cherry pickers, or any like-devices are always required to properly wear (and) lanyard(ing of) safety harnesses, regardless of height above the ground (reference TM 1-1500-204-23-9, Figure 9-4).

e. The DoD provides assistance with fall protection issues and questions on line at <https://www.denix.osd.mil/denix/Public/Intl/Fallptoection/fallprotection.html>.

5-6. **Confined Spaces.** Fuel cells and tanks (reference 29 CFR 1910.146, under Definitions (1), (2), and (4)), aircraft tailbooms (under Definition (3)), and like areas of aircraft, are Permit-Required Confined Spaces (PRCSs). As such, they fall within the criteria of 29 CFR 1910.146, and Units/Facilities will abide the requirements of NGR 385-10, applicable State/Territory regulations, and Unit/Facility directives that administer PRCSs.

5-7. **POL Operations.** Fuel Handling personnel, Maintenance personnel, and aircrewmembers must understand the proper procedures for the use and disposition of POL products as outlined in FM 10-67-1, and FM 1-300, Chapter 4. Commanders shall:

- a. Formulate a training program for Fuel Handlers IAW FM 10-67-1;
- b. ensure POL Section personnel receive fuel handling, Forward Area Refueling Equipment (FARE), tank vehicle operator, and spill prevention/reaction training (reference FM 10-67-1, Chapter 2); and
- c. ensure semiannual POL handling classes for Aircrewmembers, Fuel Handlers, and selected other personnel are conducted (see Table 3-1 of this Circular) (Also reference FM 1-300, Chapter 4). These POL handling classes shall cover, as a minimum:
  - (1) Climatic conditions and their effects on fuel handling operations (reference FM 10-67-1, Chapter 2);
    - (a) In addition to FM 10-67-1, two excellent references to include in POL training are AC 20-125, and AC 20-43C;
    - (2) bonding and grounding procedures (reference TC 11-6, [Grounding Techniques]; and FM 10-67-1, Appendix F);

(3) emergency procedures for fuel spills and fire during hot and cold refuel operations (reference FM 10-67-1, Chapter 2);

(4) proper utilization and disposition of oils and lubricants (reference FM 10-67-1, Chapters 1 and 3);

(5) conduct Forward Arming and Refueling Point (FARP) surveys using Appendix M of this Circular (or some likeness thereof) (reference FM 10-67-1, Chapter 15); and

**Note:** These classes (also) serve to qualify the attendee to serve as an inspector ("INSP") (solely) for purposes of approving the use of a FARP. Specifically, the "INSP" column of the Tactical Refueling Site Inspection Checklist in Appendix O of this Circular is very limited in its nature, and does not imply other "inspector" duties necessarily apply to the individual "signing-off" the FARP.

(6) ensure each POL Section/Platoon, and Operations Section, maintains a current printed copy of FM 10-67-1.

**Note:** Since any visible lightning has the potential to ignite POL, refueling/defueling and loading/unloading of armament systems shall cease when lightning is visible within ten statute miles (as estimated by the OIC/NCOIC, as observed standing on the ground at the operation site. Thunder, the sound caused by the shockwave of the air surrounding the lightning stroke, travels at about 1/5 mile per second - so thunder heard 50 seconds after the lightning stroke, in still air, would indicate lightning to be about ten miles away). For a more in-depth discussion of the effects of lightning, reference AC 00-6A, AC 00-24B, and AC 20-53A (Protection of Aircraft Fuel Systems Against Fuel Vapor Ignition Due to Lightning).

d. Fuel samples will not be taken in hangars unless:

(1) The Unit/Facility Hazardous Material Spill Plan is located and briefed from;

(2) the hangar fire suppression system is known (not just assumed) to be functional, and activation of this system is briefed;

(3) the closest Class B fire extinguisher is located, and visually verified as charged and serviceable;

(4) sorbent materials are verified as immediately available prior to taking the fuel sample;

(5) a drip pan is maintained beneath the fuel port or drain being accessed (reference TM 1-1500-204-23-1, Chapter 3);

(6) the aircraft is grounded (reference TM 1-1500-204-23-1, Chapter 3);

(7) the fuel port or drain accessed is verified as closed and no leakage is evident once the sample is taken; and

(8) the drained fuel is disposed of in a manner compatible with FM 3-100.4, ARs 200-1 and 200-2, and other applicable HAZMAT-related directives.

e. **Quality Status List (QSL)** and shelf-life considerations. Shelf life or expiration dates embossed/posted on POL products - particularly packaged POL - shall be abided. Unit/Facility POL personnel shall maintain POL products on a "first-in, first-out" basis, and consult FED-STD-793A (Depot Storage Standards) and the on-line QSL website at <http://www.dscr.dla.mil/qs1.qsl.htm> before discarding or using POL products with expired shelf-life dates. Further assistance may be obtained from the Army Petroleum Command at DSN 977-4392 or (Commercial) 717 770-4392; or the Government Services Administration (GSA) National Customer Service Center (NCSC) at 800 448-3111.

5-8. **Corrosion Prevention Control (CPC)** shall be IAW AR 750-59 (Army Corrosion Prevention and Control Program). Also reference AC 43-4A (Corrosion Control for Aircraft).

**5-9. Aircraft and Equipment Parking.**

a. All aircraft, motorized vehicles, and (pieces of) powered equipment parked in hangars will be grounded (reference TM 1-1500-204-23-1 and TC 11-6). Grounding points will meet the requirements of TM 1-1500-204-23-1, Chapters 2 and 3. All wheeled aircraft, vehicles and powered equipment will have the brakes set (as required by the applicable Operator's Manual), and be chocked, when in a hangar. The steerable wheels (that is, tailwheels of helicopters or nosewheels of fixed wing aircraft) of all wheeled aircraft will be secured in the locked position, when in a hangar, to preclude being blown about in a hangar by a gust of wind when opening a hangar door. Drip pans will be placed under each aircraft, motorized vehicle or (piece of) powered equipment parked in a hangar. Quick-disconnect batteries will be disconnected from each aircraft not undergoing maintenance requiring the battery, when parked in a hangar. Blade tiedowns will be secured in such a fashion so as not to interfere with marked emergency egress aisles (reference NFPA 101, Chapter 5; and 29 CFR 1910.22(b)(1)).

b. All aircraft parked outside (of) a hangar will be grounded, moored IAW TM 1-1500-250-23, and the (quick-disconnect) battery disconnected. Also reference AC 20-35C (Tiedown Sense).

c. Motorized vehicles and (pieces of) powered equipment parked outside a hangar in areas not protected by oil entrapment systems in the drainage network shall have drip pans placed beneath them when being stored or not in immediate use (reference AR 200-1; AR 200-2; FM 3-100.4; TM 5-820-1 [Surface Drainage Facilities for Airfields and Heliports]; TM 1-1500-204-23-9, para. 9-6; and TM 5-820-4 [Drainage for Areas Other than Airfields]). GSE used on airfields and airports shall be marked and identified IAW TM 1-1500-204-23-9, paragraphs 9-4, and 9-5. Also reference AC 150/5210-5B (Painting, Marking, and Lighting of Vehicles Used on an Airport).

d. Motorized vehicles and powered equipment with quick disconnect batteries will be disengaged when not in immediate use (reference TM 1-1500-204-23-9, Chapter 9).

**5-10. Servicing Multi-Piece and Single Piece Rim Wheels** of aircraft, GSE, or wheeled vehicles shall be IAW 29 CFR 1910.177; TM 55-2620-200-24 (Inspection, Maintenance Instructions, Storage, and Disposition of Aircraft Tires and Inner Tubes); and other applicable Technical Manuals. Also reference AC 20-97A (High-Speed Tire Maintenance and Operational Practices).

a. Wheels shall not be removed from aircraft, GSE, or wheeled vehicles until the tire is completely deflated (reference TM 55-2620-200-24, Section V).

b. Maintenance, inspection, and servicing of wheel and tire components shall be IAW 29 CFR 1910.177, TM 55-2620-200-24, and other applicable Technical Manual(s).

c. When inflating tires that have been deflated to less than 80 percent of their recommended pressure, the tire shall be inflated within the confines of a restraining device (see definition of "Restraining Device" in the Glossary). A clip-on chuck shall be used, and a sufficient length of hose between the clip-on chuck and the in-line air valve (at least ten feet) to allow the employee to stand outside the trajectory of wheel and tire components that may fail during inflation. Tire gage, NSN 4910-204-3170, shall be used on aircraft tires with less than 50 pounds per square inch (psi) operating pressure. For aircraft tire pressure 50 psi and above, use remote inflation safety gage, NSN 4920-00-781-8423. Reference TM 55-2620-200-24, paragraphs 6-2 and 7-2.

**Chapter 6**

**ALSE Program.** An effective ALSE program, coupled with realistic survival training of ARNG aircrews, is essential to enhance operational and combat readiness of Unit/Facilities. **This chapter** defines the ARNG ALSE program, including duties and responsibilities relative thereto.

6-1. Each aviation organization with assigned, attached, or OPCON'd Aircrewmembers shall appoint an ALSO as an additional duty. The ASO shall not be tasked with this duty. In addition to those stipulated in AR 385-95 and FM 1-508, the ALSO's duties include:

a. Maintaining close liaison with the Commander and Aviation Officer, Operations Officer, and Logistics Officer in all matters pertaining to ALSE, to include budgeting requirements;

(1) this includes ensuring the ASO, Commander, and Flight Surgeon visit the ALSE Shop at least quarterly, as evidenced by entry in the ALSE Shop Visitor's Log ;

b. ensuring trained and qualified personnel maintain and inspect all ALSE;

c. ensuring aviation personnel are equipped with serviceable clothing, survival vests, and survival kits appropriate to their respective clothing allowance zone as defined in Common Table of Allowances (CTA) 50-900 (Clothing and Individual Equipment). Survival radios and test equipment are required, and are authorized, by the MTOE/TDA for the Unit/Facility;

d. participating in annual weather briefings, emphasizing the climatic changes impacting on the individual survival and survival equipment needs (see Table 3-2 of this Circular);

e. maintaining ready reference files of ALSE literature;

f. making recommendations to improve ALSE (see paragraph 5-1 of this Circular) as determined from observations or an actual survival situation;

g. ensuring survival training is conducted annually, based on Unit METL (or Facility Mission Statement) and equipment; and

h. ensuring an ALSE NCO is appointed to assist the ALSO.

6-2. For all ARNG rotary wing flights, each crewmember will wear a survival vest. At least one operable survival radio will be worn by one crewmember (on board each aircraft). If available, an operable survival radio for each crewmember will be carried in each survival vest. At least one survival kit (reference CTA 50-900, and TM 55-1680-317-23&P [Army Aircraft Survival Kits]) will be on board each aircraft during each flight. If available, one survival kit per aircraft occupant will be carried on board each aircraft.

## Chapter 7

**Safety Program Education, Promotion, Mentorship, Funding, and Awards.** This chapter defines Safety Education and its relationship to briefings, meetings, and classes; establishes the safety-related training required of key Unit/Facility personnel; discusses how safety is promoted within ARNG Aviation; defines ASO mentorship and ASO career progression; provides instruction relative to Aviation Safety Program Funding; and defines the ARNG Aviation Safety Awards Program and its various awards and elements.

7-1. **Safety Education.** Education (and training) is a key means for developing safe behavior. Education is the process of teaching discretion in the performance of a job, operation, or activity. (Also see paragraph 3-4 of this Circular regarding Safety Briefings and Meetings.) Operational accidents - those that occur in the performance of duties - can typically be reduced by additional training and closer supervision. It is assumed that the individual receives training that is adequate for the satisfactory performance of assigned duties. Consequently, personnel who have Safety responsibilities should be concerned with the education aspects of the Safety program. There are three aspects of Safety education and training: a) The development of positive Safety attitudes; b) imparting the knowledge necessary for safe performance of various jobs; and c) the development of skill to the level necessary for safe performance. The third aspect - skill development - is accomplished through training. The other two aspects fall in the realm of education. The education of all ARNG personnel in safe work practices is essential to efficient

management. Particular emphasis is warranted on formally educating the Safety, Operations, and Command cadre(s) within ARNG aviation Units and Facilities.

**Note:** An excellent reference (textbook) that deals with safety education (and more specifically, behavioral safety and its associated psychology) is The Psychology of Safety Handbook, © 2000, written by Dr. E. Scott Geller, and published by Lewis Publishers, Inc. This book is available from many commercial sources, and through most local public and military libraries, and gives the reader clear definitions and recommendations to effectively utilize the psychological aspects of safety.

a. **Resident aviation safety (like other SOH) courses** for select ARNG personnel are conducted by various military, Government, and civilian educational institutions. These courses are designed to provide participants with knowledge in safety management, accident prevention, and OSH. Courses are announced in the 385- and 350-/351-series of Army and ARNG publications, NGB All-States Letters, electronic messages, and other publications and bulletins. Reference NGR 385-10 for non-aviation specific course information.

b. **Nonresident SOH courses** are offered by Government agencies and civilian institutions. These courses are designed to furnish basic accident prevention techniques and procedures to ASOs, OH, and Industrial Hygiene (IH) personnel. These courses are listed in appropriate catalogs and publications.

c. **Special safety training** is periodically conducted by NGB-AVS-S at various installations and locations. In addition to those courses presented IAW NGR 385-10, these courses are designed for ARNG Aviation Safety personnel in areas where specific knowledge is required and not otherwise available. Courses will be announced by electronic message.

**d. Safety-related Training and Education of Commanders and Operations Officers.**

(1) **Commanders of ARNG Aviation Facilities, and Aviation Battalions/Squadrons** (and higher-echelon organizations) should attend the Aviation Mishap Prevention Orientation Course (AMPOC) prior to assuming command, and once each five years thereafter. Commanders of aviation units subordinate to Battalions/Squadrons should attend an AMPOC within one year of assuming command, and once each five years thereafter.

(2) **Operations Officers and Facility Supervisory Instructor Pilots** should attend an AMPOC within one year of appointment to their position, and once each five years thereafter, so long as they remain in that capacity.

e. The AMPOC is designed to give operational insights to, and applications of, an effective safety program. Since all Unit/Facility personnel are integral components of the ARNG Aviation Safety program, all are authorized, and encouraged, to attend the AMPOC. Additionally, a counterpart course is available that details components of a ground-based Safety program: The Ground Mishap Prevention Orientation Course (GMPOC). As with the AMPOC, all Unit/Facility personnel are authorized, and encouraged, to attend.

f. **Safety-related Training/Aviation Medicine Continuing Education of Flight Surgeons/APAs** entails attending an aviation medicine related course once every three years after completion of the Primary Flight Surgeon's Course. The Operational Aeromedical Problems (OAP) Course, the Aerospace Medicine Association (ASMA) and the Occupational Medicine Association provide Aviation Medicine Continuing Education opportunities. Training course schedules can be found on the USASAM website at <http://192.138.48.104/>. If a Flight Surgeon/APA has not practiced aviation medicine (that is, returning to aviation medicine) for five years, they are required to complete the U.S. Army Flight Surgeon Refresher Course or the Operational Aeromedical Problems Course, or work with a Resident in Aerospace Medicine (RAM) for two weeks, before resuming the practice of aviation medicine (see paragraph 1-6q(15) of this Circular).



**Note:** This CME requirement is consistent with the licensure requirements of all cognizant State/Territory Medical Licensure Boards, and adds no burden to the individual or the ARNG.

**7-2. Safety Promotion.** Helping individuals accept new safety promeasures and countermeasures, and effectively deal with hazards, is a foundational consideration of safety communication. Mass communication often represents the most economical means of exposing the greatest number of individuals to the greatest number of safety awareness messages.

a. Many types of safety media – posters, bulletins, video tapes, films, key fobs, logbook inserts, etc. – are instrumental in achieving a high level of safety awareness. To be useful, safety communication should conform to the following communication principles: 1) The message must be specific; 2) the message must be informative; 3) the message must be pertinent; 4) the message must be enforced by personal influence; 5) fear and threat appeals should be avoided; and 6) the same message should not be presented as “new” too long.

b. The ARNG Multi-Media Branch (NGB-AVS-MMB, Ft. Rucker, AL) will provide assistance in the development, acquisition, production, and distribution of safety, promotional, and educational materials. Direct communications between ARNG Safety personnel (at all levels) and the ARNG Multi-Media Branch is authorized and encouraged. A courtesy call from Units/Facilities subordinate to State/Territory-level to the (State/Territory) Safety Manager is warranted to determine what resources may already exist in-state, prior to contacting the ARNG Multi-Media Branch.

c. **SafeFlight** is the ARNG Aviation Safety counterpart program to SafeGuard, as described in NGR 385-10. This recurring (annual) campaign, jointly developed by the ARNG Multi-Media Branch and NGB-AVS-SA, is manifested in two distinct fashions:

(1) Periodic/Quarterly Aviation Safety video tapes include year-to-date accident statistics (and year-end accident statistics, as appropriate), abridgements of recent Aviation Class A through C accident reports, recent developments in the ARNG Aviation Safety Program, ground safety statistics, points of emphasis and lessons learned, and spotlights on Facilities and Units from around the country. While the format is flexible, the timely conveyance of the Aviation Safety message with a mentorship-like flavor is the hallmark of these video tapes; and

(2) posters, key fobs, Aircraft Logbook Binder inserts, and a host of like promotional materials, for distribution to each of the States and Territories.

(3) The ARNG Multi-Media Branch and NGB-AVS-SA are jointly responsible for maintaining a current distribution list of recipients for SafeFlight program materials, and the timely production and distribution of SafeFlight program materials.

d. USASC publications such as Flightfax and Countermeasure are excellent sources for promotional material. The use of printed and visual materials from other agencies or institutions (for example, Ashore, Approach or Mech magazines, published by USNSC; Flying Safety, or Road & Rec magazines, published by the USAFSC; the U.S. Air Force Air Combat Command magazine The Combat Edge; Compliance magazine<sup>TM</sup>, published by Douglas Publications, Inc.; Aviation Safety magazine®, published by Belvoir Publications, Inc.) is authorized and encouraged. Additionally, many State Police or Highway Patrol agencies publish periodicals that may be available for the asking – which are normally punctuated by helpful articles on accident investigation, motor vehicle safety, etc. .6G funds are dedicated, in part, to the purchase of safety-related publications (see paragraph 7-4b of this Circular).

**Note:** USNSC publications are distributed throughout the ARNG by NGB-AVS-MMB. Flightfax and Countermeasure magazines are distributed throughout the ARNG by USASC.

(Paragraph 7-3 and subsequent text continued on next page.)

### 7-3. ASO Mentorship.

a. **Within Command.** Commanders should identify and appoint their ASOs after careful consideration of qualifications, dedication to task, technical and tactical proficiencies, perceptions by/of their prospective ASO counterparts, and rapport with their fellow Unit/Facility members. After appointment, the Commander should expand their mentorship of the ASO to include broadening the horizons, and grooming the ASO for the next-higher echelon safety position. This mentorship includes providing as many opportunities as practicable for attendance at symposia, seminars, conferences, workshops, formal and informal courses of instruction. The Commander should pursue the appointment of their ASO as the assistant to the (next) higher echelon ASO, to prompt the grooming process of promotion potential. ASNCOs should be mentored in tandem, using the *chain of support*, with their ASO counterparts. Additionally, ASOs should be the primary safety mentor of their ASNCO(s).

b. **Initial Appointments.** Commanders of primary echelon organizations (for example, Detachments/Troops/Companies) should select their Safety personnel recognizing the ASO and ASNCO are the Commander's principal representatives on matters concerning safety. This carries with it the requirement for a high degree of professionalism and unquestioned ethics. Commanders are prohibited from appointing Safety personnel solely for the purpose of moving an ARNG member through a safety slot to secure the next-higher rank (that is, "ticket punching"). Beyond the prerequisites of the safety position discussed earlier in this Circular, the Commander must remember the mandate to directly supervise and rate the ASO (reference AR 385-95, para. 1-5j(3)). This unique relationship between the Commander and ASO demands an open, professional and sometimes frank (albeit, respectful) dialogue between the two. The axiom that the ASO, in effect, serves as *the conscience of the Commander* largely holds true. In fact, *the ASO is the principal safety mentor of the Commander*.

c. **Successive Appointments.** ASOs at secondary (and higher) echelon organizations (for example, Battalions with subordinate Companies, and Facilities) should serve as a mentor and focal point for standardization of the safety programs that are customers of their organizations. In effect, each subordinate/customer-organization ASO/ASNCO should be mentored and groomed by the secondary echelon ASO/ASNCO to succeed them. The free exchange of safety-related information, and prompt forwarding of newly-discovered methodologies and safety applications, are tantamount to a successful ARNG safety program. Nothing in the safety files is sacred between Safety Officers/NCOs; and publications, tapes, and other resources must be freely shared. However, each ASO/ASNCO must bear in mind the sensitivity of certain information being shared that may be unique to the originating command: This information is to be shared for accident prevention purposes only. As with primary echelon organizations, the ASO works directly for, and is rated by, the Commander (reference AR 385-95, para. 1-5j(3)); and their relationship is as discussed above.

d. NGB-AVS-SA shall provide a unique mentorship service for two specific ARNG ASO/ASNCO audiences: 1) For those ASOs/ASNCOs that are recent graduates of a (Safety) MOS/ASI-producing course, NGB-AVS-SA shall provide a structured mentorship program that builds upon the DA-provided curriculum, and provides ARNG amplifications, and the theoretical and practical bridges to return them to their command more well-rounded and prepared to immediately implement and sustain their individual safety program; and 2) for those ASOs/ASNCOs *returning* to a safety billet (after some absence from a Safety position), this mentorship program will be tailored to refresh and amplify those skills required to likewise leave the participant amply prepared to be a strong safety asset to their command.

e. For all ARNG ASOs/ASNCOs, NGB-AVS-SA shall serve as the MACOM-level mentor. Contact between any ASO/ASNCO and NGB-AVS-SA does not require communication "through channels", for purposes of the safety mentorship program. As with communication between any safety professionals, this dialogue is to be open, professional and frank (albeit, respectful). NGB-AVS-SA must serve as a key resource in the ARNG Safety program to each ASO/ASNCO, and maximize the benefit derived by each ASO/ASNCO in the echelons between the ASO/ASNCO being served and NGB-AVS-SA. These services include ARNG-level safety-related publication applications and interpretations; applications for DA, DoD, and Federal safety standards; direction to (other) agency points of contact; informal training (telephonic,

email, in-person, etc.); providing a conduit for changes being considered to safety standards; and other like activities.

#### **7-4. Aviation Safety Program Funding.**

a. Each fiscal year, funds are transferred from NGB (-AVS-S) to each State and Territory for the specific purpose of administering the State/Territory Aviation Safety program(s). Once in the State/Territory, these Safety funds are typically transferred directly to the State/Territory SOH Manager's account, and are coded as to the nature of their use by the Army Management Structure Code per DFAS 37-100 Manual. In the case of Aviation Safety, these are typically coded as ".6G".

b. Per DFAS 37-100 Manual, .6G Aviation Safety Program funds, applicable solely to the ARNG, are for the procurement of aviation safety contractual services for purposes of aviation safety training and education. They provide funding for required (by regulation) surveys, standowns and inspections as required by AR 385-95, AR 385-10, NGR 385-5, and NGR 385-10. They provide funding for aviation safety equipment, professional and technical references, promotional materials, multi-media products, awards and plaques. This also includes travel, per diem, and transportation costs associated with the administration of the ARNG Aviation Safety Program.

c. Aviation Safety Program funds are designed to be used by both the Facilities and the supported Units for their Aviation Safety programs. Funds should be requested through Safety channels from the State/Territory SOH Manager.

d. SAAOs and Commanders must ensure funds are dedicated to provide ASOs with furnishings and office/administrative space suited for security of safety-related files, confidentiality of conversations and the performance of investigations, a telephone with commercial long-distance (and DSN, as locally available) access, and ensure provision (of):

(1) For each separate Company/Troop, Battalion/Squadron and higher echelon organizations, a laptop/notebook computer with modem, as available, and ensure issuance of online/network access to safety-related websites and an email account; or

(2) for each co-located (with Battalion/Squadron) Company/Troop and Detachment, a desktop computer with modem, as available, and ensure issuance of online/network access to safety-related websites and an email account.

**Note:** Suitability of computer equipment (within the requirements of AR 385-95, para. 1-4j(3)(d)), and office/administrative space and furnishings provided for/to the ASO is at local Command discretion.

e. NGB-AVS-S shall convey Safety Training program requirements (for example, AMPOC, ASORC) each year to NGB-ART - which will ensure appropriate funding and resources are dedicated to such training. Shortcomings in mandatory Safety Training program funding that may affect compliance with training requirements requires a prompt review by NGB-AVS-S to determine whether waiver activity is required, and to what extent.

#### **7-5. Aviation Safety Awards Program.**

a. HQDA and the ARNG recognize outstanding effort(s) and achievement(s) in the prevention of accidents. All States/Territories will be cognizant of their subordinate commands, activities, and individuals when significant contributions are made to the efficiency, economy, or improvement of ARNG operations through accident prevention. Awards will be made to individuals and Units/Facilities on the basis of their total safety record.

b. The ARNG of the several States and Territories are eligible for DA awards as listed in AR 672-74, para. 1-7. AGs may nominate their respective State/Territory for DA Safety awards through NGB-AVS-S to the approving authority for those awards for which the AG is not the approving authority.

c. **Army Aviation Accident Prevention Unit Awards** (reference AR 672-74, paragraphs 2-3 through 2-5) are presented on behalf of HQDA by the respective State/Territory AG to recognize aviation Units/Facilities and individual aircrewmembers for significant aviation accident prevention achievements. ARNG Units/Facilities meeting the prerequisites for award shall be nominated by the Unit/Facility ASO/ASNCO. The first endorsing higher headquarters shall certify by endorsement the activity and eligibility in/of the nomination, and ensure continuation of the effort required to secure the original nomination. Nominations will be forwarded through successive Commanders to the State/Territory AG, who is the approval authority for such awards. The (actual) DA Forms 5758 (Award of Honor in Safety); and DA Forms 5775 (Award of Accomplishment in Safety), are available from USASC or online from NGB-AVS-SA at <http://www.arng.ngb.army.mil>. The United States Army Award of Excellence in Safety (plaque) is available for purchase from Midwest Trophy, 3510 S.E. 29<sup>th</sup> Street, Dell City, OK 73115-2698 ([Commercial] 405 670-4545, extension 367) (no vendor sole-source selection is implied). The cost for this plaque, with engraving, is approximately \$35.00, and the attachment sub-plaque is approximately five dollars. This plaque may be procured using (typically) .6G funds IAW DFAS 37-100 Manual. The approved plaque design is IAW AR 672-74, Figure C-1.

d. **The Commanding General's Special Safety Award** (reference AR 672-74, para. 2-6) is treated as those awards in paragraph 7-5c of this Circular, except the approving (read *awarding*) authority is the Chief, NGB-AVS (once reviewed by the cognizant AG) (approval line on the nomination memorandum/letter to read: "Chief, National Guard Bureau [Attention: Chief, NGB-AVS], 111 South George Mason Drive, Arlington, VA 22204-1382").

(1) Specific criteria for a Unit/Facility to qualify for this award includes completing one year of exemplary safety performance is further defined as:

(a) The completion of a fiscal year without a Class A, B, or C Aviation or Ground accident; and

(b) over 50 percent of the Unit/Facility personnel must have participated in a significant training event such as a rotation at a CTC for a minimum of two-week period during that fiscal year. The completion of an AT period does not, in and of itself, qualify a Unit for this award; and

(c) participation in the event must be completed in a field environment. Participation at home station or in garrison does not qualify.

(2) The criteria for a Unit/Facility to qualify for the award by completing a major exercise without a Class A, B, or C accident is further defined as:

(a) Over 50 percent of Unit/Facility personnel must have participated in a major exercise sponsored by Joint Chiefs of Staff (JCS), a Commander in Chief (CINC), or DA for a minimum of two weeks; and

(b) Participation in the event must be completed in a field environment. Participation at home station or in garrison does not qualify.

e. To recognize outstanding efforts in aviation accident prevention, CNGB has established the **ARNG Distinguished Aviation Safety Award**. This award will be presented to a State/Territory that has a biennial period with a SPAR of 90 or better. This replaces the former criteria of having completed five consecutive years or 40,000 flying hours without a Class A or B aircraft accident. After an annual record review for eligibility, the award is initiated and processed by NGB-AVS-SA with no specific nomination required by the State or Territory.

f. **The Charles A. Lindbergh Award** is presented to States or Territories who have flown for 25 years without a Class A or B accident attributable to human error. It serves to commemorate the service of one of our nation's finest airmen, who himself served as a member of the Army National Guard from 1924 to 1927. After an annual record review for eligibility, the award is initiated and processed by NGB-AVS-SA with no specific nomination required by the State or Territory. The award is presented to the highest-ranking Aviation representative available for the State or Territory – by a representative of NGB-AVS – in

a public forum (such as a State Safety Standown or a national-level Safety Conference). The plaque features a likeness of Charles A. Lindbergh standing before a deHavilland DH-4, and is embossed with a statement of award for the State or Territory. A copy of this award is maintained by NGB-AVS-SA, and may only be awarded once each 25 years to each respective State or Territory.

g. **The Army Aviation Broken Wing Award** (reference AR 672-74, para. 3-3), and **United States Army Safety Guardian Award** (reference AR 672-74, para. 3-2) are presented by HQDA to individuals who have demonstrated the highest degree of professional aviation skill while actually recovering an aircraft from an in-flight failure or malfunction necessitating an emergency landing (or other like measures of professionalism, in the case of the United States Army Safety Guardian Award). AR 672-74, Chapter 3, is applicable to all ARNG personnel, including students authorized to pilot, crew or serve on board Army aircraft. Nominations will be submitted IAW AR 672-74.

(1) Submissions not endorsed by NGB-AVS-SA and returned to the originator, or those disapproved by HQDA, will be considered for a lesser award by NGB-AVS-SA. NGB-AVS-SA may exercise discretion as to the appropriate award, if any, and is responsible for its preparation.

(2) The Safety Guardian Lapel Pin or Broken Wing Lapel Pin (reference AR 672-74, paragraphs 3-2h and 3-3h, respectively) may be worn as/when directed by AR 670-1 (Wear and Appearance of Army Uniforms and Insignia), para. 28-13a.

h. **Lapel pins awarded by aircraft manufacturers or government agencies for varying hours of safe aircraft operation** (for example, reference AC 61-91H [Pilot Proficiency Award Program]) may only be worn as/when authorized by AR 670-1.

i. **Impact Safety Awards.** By their nature, impact awards should be presented on-the-spot, in as public a forum as possible, for acknowledgement and in recognition of a safety-related act which is above and beyond what is required of that individual (and would normally go unnoticed). Unit/Facility Impact safety awards functions and programs should be IAW this Circular. Units/Facilities are required to publish a separate Impact safety awards program SOP *only to the degree necessitated by particular and unique requirements beyond that established herein: This text shall not be repeated in its entirety by each ARNG aviation Unit/Facility.*

(1) The Commander, Senior NCO, or ASO/ASNCO of the Unit/Facility should immediately present the individual with a DA Form 1119 (card) (United States Army Certificate of Achievement in Safety), as described in AR 672-74, para. 1-7b(5). The maximum number of impact safety awards shall be determined by the Commander, but should be liberal without compromising their uniqueness. The presenter should record the name, rank, date/time, and circumstances of the award, and present this information at the next scheduled Unit/Facility Safety Council meeting. Record of the award should be documented in the minutes of the Safety Council meeting, and the Council may consider an augmentation to the award (see paragraph 7-5j below).

(2) Examples of activities that may warrant an impact safety award include: An individual notices a piece of debris near an aircraft that is about to start its engine(s) and contacts the appropriate personnel to prevent the aircraft from starting until the debris is cleared; an individual takes the initiative to attend a Safety Council meeting (other than a standing member) and voices their concern(s) on a safety-related issue; an individual gives their Section a safety tip on an area that was overlooked in the briefing prior to beginning training; or an individual shuts down a FARP operation because a Refueler is not wearing goggles.

j. **Impact and Local Award Augmentation.** Units/Facilities are authorized to augment local and impact awards to individuals with trinkets or small tokens (for example: Coffee cups, coins, pocket knives, Leatherman® tools, Mag-Lite® flashlights, thermoses, shirts, jackets, gift certificates), provided such items are conspicuously packaged, embossed, engraved, etc., so as to distinguish them as safety awards. Such trinkets or tokens shall be purchased from authorized funds (typically .6G funds, IAW DFAS 37-100 Manual) at the discretion of the issuing Commander. And, their issuance shall be logged or tracked by the

Unit/Facility ASO/ASNCO so as to dispel the notion of impropriety with Unit/Facility funds or the Unit/Facility supply system.

k. All safety awards presented to an Aircrewmember will be noted on/posted to their IATF, by the Unit/Facility ASO/ASNCO, IAW FM 1-300.

l. State/Territory AGs will establish safety awards programs. These programs will provide for recognizing significant achievement in preventing accidents within all elements and by individuals under their command or operational control. States/Territories may use locally-procured awards (typically with .6G funds, IAW DFAS 37-100 Manual).

m. Commanders and supervisors of civilian Technicians shall also refer to AR 672-20 (Incentive Awards), and DA Pam 672-5 (A Supervisor's Guide to the Incentive Awards Program), in their considerations of applicable awards.

n. Other safety awards are IAW NGR 385-10, AR 672-74, AR 672-20, AR 600-8-22 (Military Awards), and NGR 672-1 (Trophies and Awards Program for the Army National Guard).

o. ARNG personnel satisfying the criteria for the awards cited in AC 65-26B (Charles Taylor "Master Mechanic" Award), and AC 65-25B (Aviation Maintenance Technician Awards Program) are authorized and encouraged to participate in these programs.

p. ARNG Units and Facilities are authorized to participate in the Safety Awards programs of aircraft and equipment manufacturers (for example, the Bell Helicopter Textron Safe Pilot Awards program, recognizing significant hour-levels of safe aircraft operation, available online at <http://www.bellhelicopter.textron.com/content/customerSupport/flightSafety/awards.html>). In securing such awards, no expense may be incurred to the government (for the award certificate, patch, etc.) itself.

(Appendix A and subsequent Circular text continued on next page.)

## Appendix A

**Note:** Internet addresses shown are current as of publication of this Circular, and are subject to change. Always consult the proponent for the latest version (on internet address, as applicable) of the affected publication.

### References

#### Notes:

- <sup>(1)</sup> ACs/Handbooks/Orders are available through the local FAA Flight Standards District Office (FSDO), DA Regional Representatives (DARRs) (to the FAA), or for purchase from the U.S. Government Printing Office (USGPO). No Unit/Facility retention is specifically required or implied for those ACs/Handbooks/Orders not available electronically.
- <sup>(2)</sup> ANSIs and NFPAs are required to be maintained at the State/Territory-level, and are available for commercial subscription typically using .6G funds. Local purchase is authorized, but no Unit/Facility retention is specifically required or implied.
- <sup>(3)</sup> Publication referenced in text and no Unit/Facility retention is specifically required or implied.
- <sup>(4)</sup> Local purchase is authorized. However, text is available in most local public and military libraries and no Unit/Facility retention is specifically required or implied.
- <sup>(5)</sup> Not required to be maintained unless operating this aircraft.

## Section I

### Required Publications

**Note:** The publications referenced in this section are (only) those considered essential to the use and understanding of this Circular, and does not necessarily denote a mandate for retention of each publication (reference DA Pam 25-40, para. B-6g(1); and paragraph 3-6b of this Circular). Each provides an insight and background to the text in which they appear, and the citation of each is the chief criteria for their notation in this section.

#### 29 CFR Part 1910

Occupational Safety and Health Standards. (Cited in paragraphs 1-3, 3-6d, 3-7c, 3-7c(2), 4-14b, 4-16, 5-4c(3)(c), 5-5, 5-6, 5-9a, 5-10, and 5-10b; Tables 3-1, and 3-2; Appendix D; and Glossary - Section II)

[http://www.osha-slc.gov/OSHStd\\_toc/Std\\_tod\\_1910.html](http://www.osha-slc.gov/OSHStd_toc/Std_tod_1910.html)

#### 29 CFR Part 1960

Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters. (Cited in paragraphs Summary, 3-2f, 5-5, and B-7g)

[http://www.osha-slc.gov/OshStd\\_toc/Std\\_toc\\_1960.html](http://www.osha-slc.gov/OshStd_toc/Std_toc_1960.html)

#### 41 CFR, Volume 2, Subpart 101-37.12

Federal Agency Aviation Safety Program. (Cited in paragraphs Summary, and 5-5).

[http://www.access.gpo.gov/nara/cfr/waisidx\\_98/41cfr101-37\\_98.html](http://www.access.gpo.gov/nara/cfr/waisidx_98/41cfr101-37_98.html)

#### 49 CFR Subchapter C

Hazardous Materials Regulations. (Cited in paragraph 4-11b)

<http://www.access.gpo.gov/cgi-bin/cfrassemble.cgi?title=200049>

#### AC 00-6A

Aviation Weather. (Cited in Table 3-2; and paragraphs 4-5, and 5-7c(6) **Note**)

<http://www.faa.gov/education/documents/other/weather/index.htm>

**AC 00-24B**

Thunderstorms. (Cited in Table 3-2; and paragraphs 4-5, and 5-7c(6) **Note**)  
<http://isdcd.dot.gov/OLPFiles/faa/008851.pdf>

**AC 00-30B**

Atmospheric Turbulence Avoidance. (Cited in paragraph 4-19a(4))  
<http://ntl.bts.gov/data/782.pdf>

**AC 00-34A**

Aircraft Ground Handling and Servicing. (Cited in Tables 3-1, and 3-2)  
<http://isdcd.dot.gov/OLPFiles/faa/009012.pdf>

**AC 00-45E**

Aviation Weather Services. (Cited in Table 3-2)  
<http://www.faa.gov/avr/afs/afs400/>

**AC 00-46D**

Aviation Safety Reporting Program. (Cited in paragraphs 4-20a, and 4-20b)  
<http://www.faa.gov/avr/afs/acs/00-46d.txt>

**AC 00-54**

Pilot Windshear Guide. (Cited in Table 3-2)  
<http://www.faa.gov/avr/afs/acs/00-54.txt>

**AC 00-57**

Hazardous Mountain Winds and Their Visual Indicators. (Cited in paragraph 4-19a(4))  
<http://www.faa.gov/AND/AND700/AND710/AC0057/AC00571.pdf>

**AC 20-32B**

Carbon Monoxide (CO) Contamination in Aircraft – Detection and Prevention. (Cited in paragraph 4-8c(3)(b))  
<http://www.faa.gov/avr/air/acs/2032b.pdf>

**AC 20-35C**

Tiedown Sense. (Cited in paragraph 5-9b)  
<http://isdcd.dot.gov/OLPFiles/faa/008816.pdf>

**AC 20-42C**

Hand Fire Extinguishers for use in Aircraft. (Cited in Table 3-1)  
<http://www.faa.gov/avr/air/acs/2042c.pdf>

**AC 20-43C**

Aircraft Fuel Control. (Cited in Table 3-1; and paragraph 5-7c(1)(a))  
<http://isdcd.dot.gov/OLPFiles/faa/009000.pdf>

**AC 20-53A**

Protection of Aircraft Fuel Systems Against Fuel Vapor Ignition Due to Lightning. (Cited in paragraph 5-7c(6) **Note**)  
<http://www.faa.gov/avr/air/acs/2053a.pdf>

**AC 20-68B**

Recommended Radiation Safety Precautions for Ground Operation of Airborne Weather Radar. (Cited in Tables 3-1, and 3-2; and paragraph 4-10b)  
<http://www.faa.gov/fsdo/orl/files/advcir/ac20-68b.asc>

**AC 20-95**

Fatigue Evaluation of Rotorcraft Structures. (Cited in paragraph 5-2)  
<http://www.faa.gov/fsdo/orl/files/advcir/ac20-95.asc>



**AC 20-97A**

High-Speed Tire Maintenance and Operational Practices. (Cited in paragraph 5-10)  
<http://isdde.dot.gov/OLPFiles/faa/009026.pdf>

**AC 20-109A**

Service Difficulty Program (General Aviation). (Cited in paragraph 5-1b)  
<http://www.faa.gov/fsdo/orl/files/advcir/ac20109a.asc>

**AC 20-123**

Avoiding or Minimizing Encounters with Aircraft Equipped with Depleted Uranium Balance Weights During Accident Investigations. (Cited in Tables 3-1, and 3-2; and paragraph 3-7b)  
<http://isdde.dot.gov/OLPFiles/faa/008975.pdf>

**AC 20-125**

Water in Aviation Fuels. (Cited in Table 3-1; and paragraph 5-7c(1)(a))  
<http://www.faa.gov/fsdo/orl/files/advcir/ac20-125.asc>

**AC 20-133**

Cockpit Noise and Speech Interference Between Crewmembers. (Cited in Table 3-2; and paragraph 3-5f)  
<http://www.faa.gov/fsdo/orl/files/advcir/ad20-133.asc>

**AC 21-22**

Injury Criteria for Human Exposure to Impact. (Cited in Table 3-2, and paragraph 3-5c)  
<http://isdde.dot.gov/OLPFiles/faa/008995.pdf>

**AC 21-29B**

Detecting and Reporting Suspected Unapproved Parts. (Cited in paragraph 5-1c)  
<http://afs600.faa.gov/data/advisorycircular/ac21-29b.pdf>

**AC 33-1B**

Turbine Engine Foreign Object Ingestion and Rotor Blade Containment Type Certification Procedures. (Cited in Table 3-1)  
[http://www.faa.gov/avr/air/acs/AC33\\_1b.doc](http://www.faa.gov/avr/air/acs/AC33_1b.doc)

**AC 36-2C**

Measured or Estimated (Uncertificated) Airplane Noise Levels. (Cited in Tables 3-1, and 3-2; and paragraph 3-5f)  
<http://isdde.dot.gov/OLPFiles/faa/005907.pdf>

**AC 36-3G**

Estimated Airplane Noise Levels in A-Weighted Decibels. (Cited in Tables 3-1, and 3-2; and paragraph 3-5f)  
<http://isdde.dot.gov/OLPFiles/faa/005903.pdf>

**AC 43-3A**

Nondestructive Testing in Aircraft. (Cited in Table 3-1; and paragraph 4-10b)  
<http://isdde.dot.gov/OLPFiles/faa/005905.pdf>

**AC 43-4A**

Corrosion Control for Aircraft. (Cited in paragraph 5-8)  
<http://isdde.dot.gov/OLPFiles/faa/005910.pdf>

**<sup>(1)</sup>AC 43-7**

Ultrasonic Testing for Aircraft. (Cited in Table 3-1; and paragraph 4-10b)  
<http://www.aea200.ea.faa.gov/ea01/acpub.htm>

**AC 60-4A**

Pilot's Spatial Disorientation. (Cited in Table 3-2; and paragraph 4-8d)  
<http://isdde.dot.gov/OLPFiles/faa/008807.pdf>

**AC 60-21**

Announcement of Availability: A Series of Aeronautical Decision Making Training Manuals. (Cited in paragraph 4-7)  
<http://isdde.dot.gov/OLPFiles/faa/008865.pdf>

**AC 60-22**

Aeronautical Decision Making. (Cited in paragraph 4-7)  
<http://wmtalley.netpipeline.net/FTP/AC/AC-60-22.txt>

**AC 61-91H**

Pilot Proficiency Award Program. (Cited in paragraph 7-5h)  
<http://www.faa.gov/avr/air/acs/61-91h.pdf>

**AC 65-25B**

Aviation Maintenance Technician Awards Program. (Cited in paragraph 7-5o)  
<http://www.faa.gov/fsdo/awsp/ac65-25b/htm>

**AC 65-26B**

Charles Taylor "Master Mechanic" Award. (Cited in paragraph 7-5o)  
<http://www.faa.gov/avr/afs/acs/65-26b.pdf>

**AC 90-23E**

Aircraft Wake Turbulence. (Cited in paragraph 4-19a(3))  
<http://isdde.dot.gov/OLPFiles/FAA/008878.pdf>

**AC 90-48C**

Pilots' Role in Collision Avoidance. (Cited in paragraph 4-13)  
<http://isdde.dot.gov/OLPFiles/faa/008828.pdf>

**AC 90-87**

Helicopter Dynamic Rollover. (Cited in paragraph 4-19a(2))  
<http://isdde.dot.gov/OLPFiles/FAA/008933.pdf>

**AC 91.11-1**

Guide to Drug Hazards in Aviation Medicine. (Cited in paragraph 4-8c(3))  
<http://specialcollections/images/ac/91111.pdf>

**AC 91-13C**

Cold Weather Operation of Aircraft. (Cited in Tables 3-1, and 3-2)  
<http://www.faa.gov/fsdo/orl/files/advcir/ac91-13c.asc>

**AC 91-32B**

Safety in and Around Helicopters. (Cited in paragraph 1-6s(1))  
<http://isdde.dot.gov/OLPFiles/faa/005859.pdf>

**<sup>(1)</sup>AC 91-35**

Noise, Hearing Damage, and Fatigue in General Aviation Pilots. (Cited in Tables 3-1, and 3-2; and paragraph 3-5f)  
<http://www.aea200.ea.faa.gov/ea01/acpub.htm>

**<sup>(1)</sup>AC 91-42D**

Hazards of Rotating Propeller and Helicopter Rotor Blades. (Cited in paragraph 1-6s(1))  
<http://www.aea200.ea.faa.gov/ea01/acpub.htm>

**<sup>(1)</sup>AC 91-58A**

Use of Pyrotechnic Visual Distress Signaling Devices in Aviation. (Cited in Table 3-2)  
<http://www.aea200.ea.faa.gov/ea01/acpub.htm>

**AC 91-66**

Noise Abatement for Helicopters. (Cited in paragraph 1-6p(12))  
<http://isdde.dot.gov/OLPFiles/faa/008925.pdf>

**AC 120-27C**

Aircraft Weight and Balance Control. (Cited in paragraph 4-19a(1))  
<http://isdde.dot.gov/OLPFiles/FAA/006131.pdf>

**AC 120-47**

Survival Equipment for Use in Overwater Operations. (Cited in Table 3-2)  
<http://isdde.dot.gov/OLPFiles/faa/008910.pdf>

**AC 120-50A**

Guidelines for Operational Approval of Windshear Training Programs. (Cited in Table 3-2; and paragraph 4-5)  
<http://isdde.dot.gov/OLPFiles/faa/006138.pdf>

**AC 120-51C**

Crew Resource Management Training. (Cited in paragraph 4-7)  
<http://www.faa.gov/fsdo/orl/files/advcir/ac12051c.txt>

**AC 120-61**

Crewmember Training on In-Flight Radiation Exposure. (Cited in Table 3-2; and paragraph 4-10b)  
<http://isdde.dot.gov/OLPFiles/faa/008802.pdf>

**AC 120-71**

Standard Operating Procedures for Flight Deck Crewmembers. (Cited in paragraph 4-7)  
<http://www.faa.gov/avr/afs/acs/120-71.pdf>

**<sup>(1)</sup>AC 121-21B**

Information Guide for Training Programs and Manual Requirements in the Air Transportation of Hazardous Materials. (Cited in Table 3-2; and paragraphs 4-10b, and 4-11b)  
<http://www.aea200.ea.faa.gov/ea01/acpub.htm>

**AC 121-24B**

Passenger Safety Information Briefing and Briefing Cards. (Cited in paragraph 1-6s(1) **Note**)  
<http://www.faa.gov/avr/afs/acs/ac12124b.pdf>

**AC 121-27**

Guide for Air Carriers, Freight Forwarders, and Shippers in Obtaining Information Dealing with the Transportation of Hazardous Materials by Air. (Cited in Table 3-2; and paragraph 4-11b)  
<http://isdde.dot.gov/OLPFiles/faa/008893.pdf>

**AC 150/5080-8A**

Office of Airport Safety and Standards Electronic Bulletin Board. (Cited in paragraphs 1-6i(1), and 1-6k(3))  
<http://www.bts.gov/NTL/DOCS/5000-8a.html>

**AC 150/5200-12B**

Fire Department Responsibility in Protecting Evidence at the Scene of an Aircraft Accident. (Cited in paragraph 3-7c(6) **Note**)  
<http://www.faa.gov/arp/pdf/5200-12b.pdf>

**AC 150/5200-18B**

Airport Safety Self-Inspection. (Cited in paragraphs 5-4c(3)(b), and 5-4c(3)(e))  
<http://isdde.dot.gov/OLPFiles/faa/006516.pdf>

**AC 150/5200-30A**

Airport Winter Safety and Operations. (Cited in Table 3-1; and paragraph 4-23)  
<http://www.faa.gov/arp/pdf/5200-30a.pdf>

**AC 150/5200-31A**

Airport Emergency Plan. (Cited in paragraphs 3-7c, and 4-16)  
<http://www.faa.gov/arp/pdf/520031a.pdf>

**AC 150/5200-32**

Announcement of Availability: Bird Strike Incident/Ingestion Report. (Cited in paragraph 4-12)  
<http://isdde.dot.gov/OLPFiles/faa/006518.pdf>

**AC 150/5200-33**

Hazardous Wildlife Attractants on or Near Airports. (Cited in paragraph 4-12)  
<http://www.faa.gov/arp/pdf/5200-33.pdf>

**AC 150/5210-5B**

Painting, Marking, and Lighting of Vehicles Used on an Airport. (Cited in paragraph 5-9c)  
<http://www.faa.gov/arp/pdf/5210-5b.pdf>

**AC 150/5220-20**

Airport Snow and Ice Control Equipment. (Cited in paragraph 4-23)  
<http://www.faa.gov/avr/arp/pdf/5220-20.pdf>

**AC 150/5380-5B**

Debris Hazards at Civil Airports. (Cited in Tables 3-1, and 3-2; and paragraph 5-4c(3)(b))  
<http://www.faa.gov/arp/pdf/5380-5b.pdf>

**Aeronautical Information Manual (AIM)**

(FAA publication) (Cited in paragraphs 2-7b, 4-5, 4-12, 4-19a(3), and 4-19a(4); and Table 3-2)  
<http://www.faa.gov/AIM/index.htm>

**AFI 51-503**

Aircraft, Missile, Nuclear, and Space Accident Investigations. (Cited in paragraph 3-7e(1) **Note**)  
<http://afpubs/hq.af.mil/pubs/publist.asp?puborg=AF&series=51>

**AFMAN 15-111**

Surface Weather Observations. (Cited in Table 3-2)  
<http://afpubs/hq.af.mil/pubs/publist.asp?puborg=AF&series=15>

**AFMAN 15-125**

Weather Station Operations. (Cited in Table 3-2)  
<http://afpubs/hq.af.mil/pubs/publist.asp?puborg=AF&series=15>

**AFPAM 91-212**

Bird Aircraft Strike Hazard (BASH) Management Techniques. (Cited in paragraph 4-12)  
<http://134.205.165.205>

**<sup>(2)</sup>ANSI Z358.1**

American National Standard for Emergency Eyewash and Shower Equipment. (Cited in Tables 3-1, and 3-2)

**<sup>(3)</sup>Approach**

(USNSC magazine) (Cited in paragraphs 3-4d(2), and 7-2d)  
<http://safetycenter.navy.mil>

**AR 5-1**

Army Management Philosophy. (Cited in paragraph Army Performance Improvement Criteria [APIC])  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R5\\_1/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R5_1/CCONTENTS)

**AR 5-4**

Department of the Army Productivity Improvement Program. (Cited in paragraph Army Performance Improvement Criteria [APIC])  
[Ftp://pubs.army.mil/pub/epubs/pdf/r5\\_4.pdf](Ftp://pubs.army.mil/pub/epubs/pdf/r5_4.pdf)

**AR 11-1**

Command Logistics Review Program (CLRP). (Cited in paragraph B-7f)  
[Ftp://pubs.army.mil/pub/epubs/pdf/r11\\_1.pdf](Ftp://pubs.army.mil/pub/epubs/pdf/r11_1.pdf)

**AR 11-2**

Management Control. (Cited in paragraph Management Control Process)  
[Ftp://pubs.army.mil/pub/epubs/pdf/r11\\_2.pdf](Ftp://pubs.army.mil/pub/epubs/pdf/r11_2.pdf)

**AR 11-9**

The Army Radiation Safety Program. (Cited in Tables 3-1, 3-2, and 3-4; and paragraph 4-10b)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R11\\_9/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R11_9/CCONTENTS)

**AR 11-34**

The Army Respiratory Protection Program. (Cited in Table 3-1)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R11\\_34/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R11_34/CCONTENTS)

**AR 15-6**

Procedure for Investigating Officers and Boards of Officers. (Cited in paragraph 3-7e **Note**)  
[ftp://pubs.army.mil/pub/epubs/pdf/r15\\_6.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r15_6.pdf)

**AR 25-30**

The Army Publishing and Printing Program. (Cited in paragraphs History, Distribution, 4-24, and 5-7c(6); and Tables 3-1, and 3-2)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R25\\_30/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R25_30/CCONTENTS)

**AR 25-50**

Preparing and Managing Correspondence. (Cited in paragraph 3-7e(1)(c))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R25\\_50/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R25_50/CCONTENTS)

**AR 25-400-2**

The Modern Army Recordkeeping System (MARKS). (Cited in paragraphs 1-6k(4), 2-3e, 3-1a(5), 3-4a(3), and 5-4c(4)(a); and Appendix C)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R25\\_4002/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R25_4002/CCONTENTS)

**AR 34-4**

Army Standardization Policy. (Cited in paragraphs 1-6p(5), and 4-6)  
[ftp://pubs.army.mil/pub/epubs/pdf/r34\\_4.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r34_4.pdf)

**AR 40-3**

Medical, Dental, and Veterinary Care. (Cited in paragraphs 1-6q(5), 3-5d, and 4-8c(5))  
[ftp://pubs.army.mil/pub/epubs/pdf/r40\\_3.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r40_3.pdf)

**AR 40-5**

Preventive Medicine. (Cited in paragraphs 3-8, 4-8, and 4-8c(5))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40\\_5/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40_5/CCONTENTS)

**AR 40-8**

Temporary Flying Restrictions Due to Exogenous Factors. (Cited in paragraphs 1-6t(7), 4-8c(3), 4-8c(3)(c), and 4-8c(5); and Table 3-4)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40\\_8/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40_8/CCONTENTS)

**AR 40-16**

Special Notification – Injury Cases. (Cited in paragraph 4-8c(5))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40\\_16/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40_16/CCONTENTS)

**AR 40-21**

Medical Aspects of Army Aircraft Accident Investigation. (Cited in paragraphs 1-6q(5), and 3-5c; and Table 3-4)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40\\_21/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40_21/CCONTENTS)

**AR 40-31**

Armed Forces Institute of Pathology and Armed Forces Histopathology Centers. (Cited in paragraph 1-6q(5))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40\\_31/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40_31/CCONTENTS)

**AR 40-501**

Standards of Medical Fitness. (Cited in paragraphs 3-8, 4-8b(1)(b), 4-8b(4), and 4-8c(5))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40\\_501/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R40_501/CCONTENTS)

**AR 75-1**

Malfunctions Involving Ammunition and Explosives (RCS CSGLD-1961 (MIN)). (Cited in paragraphs 2-4c, and 3-7b)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R75\\_1/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R75_1/CCONTENTS)

**AR 95-1**

Flight Regulations. (Cited in paragraphs 1-6p(4), 1-6p(5), 4-1, 4-1 **Note**, 4-5, 4-6, 4-11b, 4-19a(1), and 4-19a(4); and Tables 3-2, and 3-4)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R95\\_1/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R95_1/CCONTENTS)

**AR 95-2**

Air Traffic Control, Airspace, Airfields, Flight Activities, and Navigational Aids. (Cited in Table 3-4)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R95\\_2/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R95_2/CCONTENTS)

**AR 95-10**

Department of Defense Notice to Airmen (NOTAM) System. (Cited in paragraphs 2-7b, and 4-5)  
[ftp://pubs.army.mil/pub/epubs/pdf/r95\\_10.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r95_10.pdf)

**AR 95-27**

Operational Procedures for Aircraft Carrying Hazardous Materials. (Cited in paragraph 4-11b)  
[ftp://pubs.army.mil/pub/epubs/pdf/r95\\_27.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r95_27.pdf)

**AR 95-30**

Participation in a Military or Civil Aircraft Accident Safety Investigation. (Cited in paragraphs 2-4c, and 3-7b)  
[ftp://pubs.army.mil/pub/epubs/pdf/r95\\_30.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r95_30.pdf)

**AR 115-10**

Weather Support for the U.S. Army. (Cited in Table 3-2)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R115\\_10/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R115_10/CCONTENTS)

**AR 130-5**

Organization and Functions of National Guard Bureau. (Cited in paragraph Summary; and Glossary – Section II)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R190\\_11/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R190_11/CCONTENTS)

**AR 190-11**

Physical Security of Arms, Ammunition, and Explosives. (Cited in paragraph 4-11e)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R190\\_11/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R190_11/CCONTENTS)

**AR 190-40**

Serious Incident Report. (Cited in paragraphs 2-4c, and 3-7b)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R190\\_40/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R190_40/CCONTENTS)

**AR 200-1**

Environmental Protection and Enhancement. (Cited in Tables 3-1, and 3-2; and paragraphs 5-4c(2)(e)4, 5-7d(8), and 5-9c)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R200\\_1/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R200_1/CCONTENTS)

**AR 200-2**

Environmental Effects of Army Actions. (Cited in Tables 3-1, and 3-2; and paragraphs 5-4c(2)(e)4, 5-7d(8), and 5-9c)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R200\\_2/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R200_2/CCONTENTS)

**AR 340-21**

The Army Privacy Program. (Cited in paragraph B-6; and Appendix L)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R340\\_21/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R340_21/CCONTENTS)

**AR 350-30**

Code of Conduct, Survival, Evasion, Resistance, and Escape (SERE) Training. (Cited in Table 3-2)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R350\\_30/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R350_30/CCONTENTS)

**AR 385-10**

The Army Safety Program. (Cited in paragraphs Summary, 1-6j, 1-6j(1), 1-6j(2), 2-4d, 2-4g, 2-4i, 3-2g(2), 3-3g(3), 3-8, 4-21, 4-22, 7-4b, B-7d(1), and B-7g; Tables 3-1, 3-2, and 3-4; Appendix D; and Glossary - Section II)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385\\_10/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385_10/CCONTENTS)

**AR 385-14**

Transportation Accident Prevention and Emergency Response Involving Conventional Munitions and Explosives. (Cited in paragraphs 2-4c, and 3-7b)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385\\_14/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385_14/CCONTENTS)

**AR 385-16**

System Safety Engineering and Management. (Cited in Table 2-2; and paragraphs 2-3b, and 3-2g(2))

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385\\_16/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385_16/CCONTENTS)

**AR 385-40**

Accident Reporting and Records. (Cited in paragraphs 1-6i(8), 1-6q(3), 2-4c, 3-6c, 3-7a, 3-7a(1), 3-7b, 3-7c(5)(b), 3-7d(1), 3-7e, 3-7e **Note**, 3-7e(1)(b) **Note**, 3-7e(1)(c), 3-7f(1), 3-7g, 5-1, 5-2, B-5, B-7c, B-7d(1), and B-7d(2); Table 3-4; Appendix L; and Glossary - Section II)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385\\_40/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385_40/CCONTENTS)

**AR 385-55**

Prevention of Motor Vehicle Accidents. (Cited in Tables 3-4, and 4-1; and paragraphs 4-8b(1), 4-8b(1)(d), 4-8b(1)(d) **Note**, 4-8b(3), 4-8b(4)(b), 4-22, and 4-22a)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385\\_55/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385_55/CCONTENTS)

**AR 385-62**

Regulations for Firing Guided Missiles and Heavy Rockets for Training, Target Practice, and Combat. (Cited in paragraph 4-9b)

[Ftp://pubs.army.mil/pub/epub/pdf/r385\\_62.pdf](ftp://pubs.army.mil/pub/epub/pdf/r385_62.pdf)

**AR 385-63**

Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat. (Cited in Table 3-4; and paragraph 4-9b)

[Ftp://pubs.army.mil/pub/epub/pdf/r385\\_63.pdf](ftp://pubs.army.mil/pub/epub/pdf/r385_63.pdf)

**AR 385-64**

Ammunition and Explosive Safety Standards. (Cited in Table 3-4; and paragraphs 4-9b, and 4-17)

[ftp://pubs.army.mil/pub/epubs/pdf/r385\\_64.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r385_64.pdf)

**AR 385-95**

Army Aviation Accident Prevention. (Cited in paragraphs Summary, A Note About Mandates Versus Guidance in This Circular, Management Control Process, 1-6i, 1-6j, 1-6j(3), 1-6q(5), 2-4a, 2-4b, 2-4h, 2-4i, 2-5e, 2-5f(4), 3-3e, 3-3f, 3-3g(1), 3-3k, 3-3k(3), 3-4a(3), 3-7c, 3-7c(2), 3-7e(2), 4-8b, 4-16, 4-16a, 4-20, 5-2, 5-4 6-1, 7-3b, 7-3c, and 7-4b; Tables 3-1, 3-2, and 3-4; Appendices D, and H; and Glossary - Section II)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385\\_95/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R385_95/CCONTENTS)

**AR 420-90**

Fire and Emergency Services. (Cited in paragraphs 2-7c, 3-2f, 3-3f, 3-7c, 3-7c(2), 4-16, and 4-16b; and Tables 3-1, and 3-4)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R420\\_90/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R420_90/CCONTENTS)

**AR 600-8-22**

Military Awards. (Cited in paragraph 7-5n)

[ftp://pubs.army.mil/pub/epubs/pdf/r600\\_8\\_22.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r600_8_22.pdf)

**AR 600-8-105**

Military Orders. (Cited in paragraphs 1-6g(1)(a), and 1-6h(1)(a))

[ftp://pubs.army.mil/pub/epubs/pdf/r600\\_8\\_105.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r600_8_105.pdf)

**AR 600-55**

The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing). (Cited in Table 3-4; and paragraph 4-22)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R600\\_55/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R600_55/CCONTENTS)

**AR 600-63**

Army Health Promotion. (Cited in Table 3-2)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R600\\_63/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R600_63/CCONTENTS)

**AR 670-1**

Wear and Appearance of Army Uniforms and Insignia. (Cited in paragraphs 7-5g(2), and 7-5h)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R670\\_1/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R670_1/CCONTENTS)

**AR 672-20**

Incentive Awards. (Cited in paragraphs 7-5m, and 7-5n)

[ftp://pubs.army.mil/pub/epubs/pdf/r672\\_20.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r672_20.pdf)

**AR 672-74**

Army Accident Prevention Awards Program. (Cited in paragraphs 2-4e, 7-5b, 7-5c, 7-5d, 7-5g, 7-5g(2), 7-5i(1), and 7-5n; and Table 3-4)

[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R672\\_74/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R672_74/CCONTENTS)



**AR 700-132**

Joint Oil Analysis Program (JOAP). (Cited in Tables 3-1, and 3-2; and paragraph 5-3)  
[ftp://pubs.army.mil/pub/epubs/pdf/r700\\_132.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r700_132.pdf)

**AR 700-141**

Hazardous Material Information System (HMIS) (RCS DD-FM&P (A, Q&AR) 1486). (Cited in Tables 3-1, 3-2, and 3-4)  
[ftp://pubs.army.mil/pub/epubs/pdf/r700\\_141.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r700_141.pdf)

**AR 702-7**

Product Quality Deficiency Report Program. (Cited in Tables 3-1, and 3-2; and paragraphs 3-7g(1), and 5-1)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R702\\_7/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R702_7/CCONTENTS)

**AR 702-7-1**

Reporting of Product Quality Deficiencies Within the U.S. Army. (Cited in Tables 3-1, and 3-2; and paragraph 5-1)  
[ftp://pubs.army.mil/pub/epubs/pdf/r702\\_7\\_1.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r702_7_1.pdf)

**AR 702-17**

Quality Improvement and Product Nonconformance Reduction. (Cited in Tables 3-1, and 3-2; and paragraph 5-1)  
[ftp://pubs.army.mil/pub/epubs/pdf/r702\\_17.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r702_17.pdf)

**AR 750-1**

Army Materiel Maintenance Policy and Retail Maintenance Operations. (Cited in Tables 3-1, and 3-2; and paragraph 5-3)  
[ftp://pubs.army.mil/pub/epubs/pdf/r750\\_1.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r750_1.pdf)

**AR 750-59**

Army Corrosion Prevention and Control Program. (Cited in paragraph 5-8)  
[ftp://pubs.army.mil/pub/epubs/pdf/r750\\_59.pdf](ftp://pubs.army.mil/pub/epubs/pdf/r750_59.pdf)

**ARMS Checklist**

(FORSCOM proponent checklist) (Cited in paragraphs 3-2e, and B-7b(1))  
<http://www.forscom.army.mil/avn/GUIDE2001.htm>

**ASAAPS Checklist**

(NGB-AVS-SA proponent checklist) (Cited in paragraph 3-2e)  
<http://www.arng.ngb.army.mil>

**<sup>(3)</sup>Ashore**

(USNSC magazine) (Cited in paragraphs 3-4d(2), and 7-2d)  
<http://safetycenter.navy.mil>

**<sup>(3)</sup>Aviation Safety®**

(Belvoir Publications, Inc. magazine) (Cited in paragraph 7-2d)  
[aviasaf@palmcoastd.com](mailto:aviasaf@palmcoastd.com)

**CIP Checklist**

(OSAA/OSACOM proponent checklist) (Cited in paragraph 3-2e)  
<http://160.147.9.92/safety/2checklist.doc>

**<sup>(3)</sup>Compliance™**

(Douglas Publications, Inc. magazine) (Cited in paragraph 7-2d)  
<http://www.compliancemag.com>

**<sup>(3)</sup>Countermeasure**

(USASC magazine) (Cited in paragraphs 3-4d(2), 7-2d, and 7-2d **Note**)  
<http://safety.army.mil>

**CTA 50-900**

Clothing and Individual Equipment. (Cited in paragraphs 6-1c, and 6-2)

**DA Pam 25-30**

Consolidated Index of Army Publications and Blank Forms. (Cited in paragraph 4-24)  
<http://www.usapa.army.mil/pubs/da-dosearch.html>

**DA Pam 25-40**

Administrative Publications: Action Officers Guide. (Cited in Appendix A – Sections I and II)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P25\\_40/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P25_40/CCONTENTS)

**DA Pam 40-13**

Training in First Aid and Emergency Medical Treatment. (Cited in Tables 3-1, and 3-2)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P40\\_13/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P40_13/CCONTENTS)

**DA Pam 40-18**

Personnel Dosimetry Guidance and Dose Recording Procedures for Personnel Occupationally Exposed to Ionizing Radiation. (Cited in Tables 3-1, and 3-2; and paragraph 4-10b)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P40\\_18/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P40_18/CCONTENTS)

**DA Pam 40-501**

Hearing Conservation Program. (Cited in Tables 3-1, 3-2, and 3-4; and paragraph 3-5f)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P40\\_501/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P40_501/CCONTENTS)

**DA Pam 40-503**

The Army Industrial Hygiene Program. (Cited in paragraphs 3-2f, and 3-8; and Glossary - Section II)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P40\\_503/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P40_503/CCONTENTS)

**DA Pam 40-506**

The Army Vision conservation and Readiness Program. (Cited in Tables 3-1, and 3-2; and paragraph 4-10a)  
<http://www.usapa.army.mil/pdffiles/p40-506.pdf>

**DA Pam 385-1**

Small Unit Safety Officer/NCO Guide. (Cited in paragraph 1-6j; and Table 3-4)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P385\\_1/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P385_1/CCONTENTS)

**DA Pam 385-16**

System Safety Management Guide. (Cited in Table 2-2; and paragraphs 2-3b, and 3-2g(2))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P385\\_16/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P385_16/CCONTENTS)

**DA Pam 385-40**

Army Accident Investigation and Reporting. (Cited in paragraphs 2-4c, 3-7a, 3-7b, 3-7c **Note**, 3-7c(5)(b), 3-7e, 5-1, 5-2, B-7c, B-7d(1), and B-7d(2); Table 3-4; and Appendix L)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P385\\_40/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P385_40/CCONTENTS)

**DA Pam 600-63-4**

Individual Assessment. (Cited in Table 3-2)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600\\_63\\_4/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600_63_4/CCONTENTS)

**DA Pam 600-63-5**

Physical Conditioning. (Cited in Table 3-2; and paragraph 4-8c(2))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600\\_63\\_5/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600_63_5/CCONTENTS)

**DA Pam 600-63-6**

Nutrition and Weight Control. (Cited in Table 3-2; and paragraphs 4-8c(1), and 4-8c(6))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600\\_63\\_6/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600_63_6/CCONTENTS)

**DA Pam 600-63-7**

Antitobacco Use. (Cited in paragraphs 4-8c(3)(a), and 4-8c(3)(b))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600\\_63\\_7/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600_63_7/CCONTENTS)

**DA Pam 600-63-8**

Substance Abuse Prevention. (Cited in paragraphs 4-8c(3), and 4-8c(3)(c))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600\\_63\\_8/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600_63_8/CCONTENTS)

**DA Pam 600-63-10**

Stress Management. (Cited in Tables 3-1, and 3-2; and paragraph 4-8c(4))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600\\_63\\_10/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600_63_10/CCONTENTS)

**DA Pam 600-70**

Guide to the Prevention of Suicide and Self-Destructive Behavior. (Cited in Tables 3-1, and 3-2; and paragraph 4-8c(4))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600\\_70/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600_70/CCONTENTS)

**DA Pam 672-5**

A Supervisor's Guide to the Incentive Awards Program. (Cited in paragraph 7-5m)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P672\\_5/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P672_5/CCONTENTS)

**DA Pam 710-2-1**

Using Unit Supply System (Manual Procedures). (Cited in paragraph 3-7e(5)(c))  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P710\\_2\\_1/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P710_2_1/CCONTENTS)

**DA Pam 738-751**

Functional Users Manual for The Army Maintenance Management System – Aviation (TAMMS-A). (Cited in paragraphs 1-6n(7), 3-7g(1), 4-19a(1), 5-1, and 5-2; Tables 3-1, and 3-2; Appendix I; and Glossary - Section II)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P738\\_751/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P738_751/CCONTENTS)

**<sup>(4)</sup>Darker Shades of Blue**

(McGraw-Hill Companies textbook) (Cited in paragraph 3-1 **Note**)  
<http://www.amazon.com/exec/obidos/ASIN/0070349274>

**DFAS 37-100 Manual**

Financial Management – The Army Management Structure Fiscal Year \* \*. (Cited in paragraphs 3-4c, 3-7c(6), 7-4a, 7-4b, 7-5c, 7-5j, and 7-5l)  
<http://www.asafm.army.mil/secretariat/document/dfas37-100/dfas37-100.asp>

**DODI 6050.5**

DoD Hazard Communication Program. (Cited in paragraph 2-7b; and Tables 3-1, and 3-2)  
<http://web7.whs.osd.mil/pdf/i60505p.pdf>

**DODI 6050.5-W**

Department of Defense Federal Hazard Communication Training Program. (Cited in Tables 3-1, and 3-2)  
<http://web7.whs.osd.mil/pdf/i60505w.htm>

**DODI 6055.7**

Accident Investigation, Reporting, and Record Keeping. (Cited in paragraphs 2-4c, 3-7b, and 3-7e)  
<http://web7.whs.osd.mil/pdf/i60557p.pdf>

<sup>(1)</sup>**FAA-H-8083-1**

Aircraft Weight and Balance Handbook. (Cited in paragraph 4-19a(1))  
<http://www.aea200.ea.faa.gov/ea01/acpub.htm>

**FAA Order 8020.11B**

Aircraft Accident and Incident Notification, Investigation, and Reporting. (Cited in paragraphs 2-4c, and 3-7b)  
[http://www.faa.gov/avr/aai/8020\\_11b.pdf](http://www.faa.gov/avr/aai/8020_11b.pdf)

**FCR 385-1**

Forces Command Safety Program. (Cited in Appendix O)  
<http://www.forscom.army.mil/pubs/Pubs/REG/FORSCOM385-1.doc>

**FED-STD-793A**

Depot Storage Standards. (Cited in paragraph 5-7e)  
[http://163.12..140.8/eAccess/index.cfm?ident\\_number=53833](http://163.12..140.8/eAccess/index.cfm?ident_number=53833)

<sup>(3)</sup>**Flightfax**

(USASC magazine) (Cited in paragraphs 3-4d(2), 7-2d, and 7-2d **Note**)  
<http://safety.army.mil>

<sup>(3)</sup>**Flying Safety**

(USAFSC magazine) (Cited in paragraphs 3-4d(2), and 7-2d)  
<http://www.afsc.saia.af.mil/magazine/htdocs/index.html>

**FM 1-111**

Aviation Brigades. (Cited in Appendix O)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/1-111/toc/htm>

**FM 1-140**

Helicopter Gunnery. (Cited in Tables 3-2, and 3-4; and paragraphs 4-9b, 4-9b(1), 4-10a, 4-11b, and 4-11c)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/1-140/toc/htm>

**FM 1-202**

Environmental Flight. (Cited in paragraph 4-19a(4))

**FM 1-203**

Fundamentals of Flight. (Cited in paragraph 4-19a(2))

**FM 1-230**

Meteorology for Army Aviators. (Cited in Table 3-2; and paragraph 4-5)

**FM 1-300**

Flight Operations Procedures. (Cited in paragraphs 1-6g(8), 1-6h(8), 1-6k(7), 3-7c, 3-7c(2), 4-1 **Note**, 4-7, 4-9a, 4-23, 5-7, 5-7c, and 7-5k; and Tables 3-1, 3-2, and 3-4)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/1-300/toc/htm>

**FM 1-400**

Aviator's Handbook. (Cited in paragraphs 1-6s(1), 4-12, and 4-13; and Tables 3-2, and 3-4)

**FM 1-508**

Maintaining Aviation Life Support Equipment. (Cited in Tables 3-2, and 3-4; and paragraph 6-1)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/1-508/toc/htm>

**FM 3-0**

Operations. (Cited in paragraphs 1-6p(5), and 4-1)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/3-0/toc.htm>

**FM 3-04.301**

Aeromedical Training for Flight Personnel. (Cited in Tables 3-1, 3-2, and 3-4; and paragraphs 3-5e(3)(a), 3-5f, 3-8, 4-8c(3)(a), 4-8c(3)(b), 4-8c(3)(d), 4-8c(6), and 4-8d)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/3-04.301/toc.htm>

**FM 3-04.500**

Army Aviation Maintenance. (Cited in paragraphs 1-6n(7), 5-2, 5-4c(2)(e)4, and 5-4c(3)(b); and Table 3-4)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/3-04.500/toc.htm>

**FM 3-61.1**

Public Affairs Tactics, Techniques and Procedures. (Cited in paragraph 4-16a(2))  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/3-61.1/toc.htm>

**FM 3-100.4**

Environmental Considerations in Military Operations. (Cited in Tables 3-1, and 3-2; and paragraphs 5-4c(2)(e)4, 5-7d(8), and 5-9c)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/3-100.4/toc.htm>

**FM 3-100.12**

Risk Management (Cited in paragraphs Summary, 1-6p(5), 2-3, 3-2g(2), 3-2g(3), and 4-1; Tables 3-1, 3-2, and 3-4; and Appendix D)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/3-100.12/toc.htm>

**FM 4-02.17**

Preventive Medicine Services (Cited in Tables 3-1, and 3-2)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/4-02.17/toc.htm>

**FM 4-30.3**

Maintenance Operations and Procedures (Cited in Tables 3-1, and 3-2)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/4-30.3/toc.htm>

**FM 5-415**

Fire-Fighting Operations. (Cited in Table 3-1; and paragraphs 4-16, and 4-16b)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/5-415/5-415.htm>

**FM 8-50**

Prevention and Medical Management of Laser Injuries. (Cited in Tables 3-1, and 3-2; and paragraph 4-10a)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/8-50/toc.htm>

**FM 10-67-1**

Concepts and Equipment of Petroleum Operations. (Cited in Tables 3-1, 3-2, and 3-4; paragraph 5-7, 5-7a, 5-7b, and 5-7c(1) through 5-7c(6); and Appendix O)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/10-67-1/contents.html>

**FM 21-11**

First Aid for Soldiers. (Cited in Tables 3-1, and 3-2)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/21-11/fm2111.htm>

**FM 21-20**

Physical Fitness Training. (Cited in paragraph 4-8c(2))  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/21-20/fm2120.htm>

**FM 21-76**

Survival. (Cited in Table 3-2)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/21-76/fm2176.htm>

**FM 21-305**

Manual for the Wheeled Vehicle Driver. (Cited in paragraph 4-22)

<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/21-305/fm21305.htm>

**FM 22-51**

Leaders' Manual for Combat Stress Control. (Cited in Tables 3-1, and 3-2; and paragraph 4-8c(4))

<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/22-51/fm2251.htm>

**FM 25-100**

Training the Force. (Cited in Glossary - Section II)

<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/25-100/fm25100.htm>

**FM 25-101**

Battle Focused Training. (Cited in Table 3-4)

<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/25-101/fm25101.htm>

**FM 31-70**

Basic Cold Weather Manual. (Cited in Tables 3-1, and 3-2)

<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/31-70/toc.htm>

**FM 34-81**

Weather Support for Army Tactical Operations. (Cited in Table 3-2)

<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/34-81/fm3481.htm>

**FM 90-3**

Desert Operations. (Cited in Tables 3-1, and 3-2)

<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/90-3/toc.htm>

**FM 100-14**

Risk Management. (Cited in paragraphs Summary, 1-6p(5), 2-3, 2-3b, 3-2g(2), 3-2g(3), and 4-1; Tables 3-1, 3-2, and 3-4; and Appendix D)

<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/100-14/default.htm>

**FM 101-5**

Staff Organization and Operations. (Cited in paragraph 3-2a; and Table 3-4)

<http://www.adtdl.army.mil/cgi-bin/atdl.dll/fm/101-5/fm1015.htm>

**Guide to Aviation Resources Management for Aircraft Mishap Prevention**

(An ABSO proponent checklist). (Cited in paragraph 3-2e)

<http://www-rucker.army.mil/abso/13GUIDE.HTM>

**<sup>(3)</sup>Human AD**

(Bell Helicopter Textron, Inc., magazine) (Cited in paragraph 4-7a **Note**)

<http://safetycenter.navy.mil>

**<sup>(4)</sup>Human Factors in Multi-Crew Flight Operations**

(Ashgate Publishing Limited textbook) (Cited in paragraph 4-7 **Note**)

<http://www.amazon.com/exec/obidos/ASIN/0070349274>

**<sup>(4)</sup>Investigative Interviewing**

(John Wiley & Sons Ltd textbook) (Cited in paragraph 3-7e(1)(b) **Note**)

<http://www.wiley.com>

**<sup>(3)</sup>Mech**

(USNSC magazine) (Cited in paragraphs 3-4d(2), and 7-2d)

<http://safetycenter.navy.mil>

**(2)NFPA 10**

Standard for Portable Fire Extinguishers. (Cited in Table 3-1)  
<http://www.nfpacatalog.org>

**(2)NFPA 101**

Life Safety Code. (Cited in paragraph 5-9a)  
<http://www.nfpacatalog.org>

**(2)NFPA 1620**

Recommended Practice for Pre-Incident Planning. (Cited in paragraph 3-7c)  
<http://www.nfpacatalog.org>

**NG CIR 385-95**

Army National Guard (ARNG) Aviation Safety Program and Aviation Accident Prevention Plan (AAPP). (Cited in paragraph Suggested Improvements; Tables 3-1, 3-2, and 3-4; and Appendix N)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/385/38595.pdf>

**NG Pam 11-1**

Command Logistics Review Program (CLRP). (Cited in paragraph B-7f)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/11/111.pdf>

**NG Pam 25-31**

Administrative Guidance for the Receipt of NGB Publications and Blank Forms. (Cited in paragraph 4-24)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/25/31.pdf>

**NGR 95-1**

ARNG Aviation: Flight Regulations. (Cited in paragraphs 1-6p(5), 4-1, and 4-6; Table 3-4; and Glossary - Section II)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/95/951.pdf>

**NGR 95-210**

Army National Guard: General Provisions and Regulations for Aviation Training. (Cited in paragraphs 1-3, 1-6b, 1-6g, 1-6h, 1-6p(5), 4-1, and 4-6; and Tables 3-2, and 3-4)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/95/95210.pdf>

**NGR 385-5**

Aviation Support Activity Accident Prevention Survey (ASAAPS) Program. (Cited in paragraphs 1-6g(9), 3-2b, 3-2e, 7-4b, and B-7a)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/385/3855.pdf>

**NGR 385-10**

Army National Guard Safety and Occupational Health Program. (Cited in paragraphs 2-4f, 2-4h, 3-3c, 3-3g(2), 3-4c(1), 3-5a, 3-5f, 3-6d, 3-7a, 3-8, 4-21, 4-22, 5-6, 7-1a, 7-1c, 7-2c, 7-4b, and 7-5n; and Table 3-4)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/385/38510.pdf>

**NGR 385-11**

Ionizing and Nonionizing Radiation Protection. (Cited in paragraph 4-10b)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/385/38511.pdf>

**NGR 672-1**

Trophies and Awards Program for the Army National Guard. (Cited in paragraph 7-5n)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/672/6721.pdf>

**NGR 750-51**

Command Maintenance Evaluation Team (COMET). (Cited in paragraph B-7e)  
<http://www.ngbpdc.ngb.army.mil/pubfiles/750/75051.pdf>

**<sup>(3)</sup>Road & Rec**

(USAFSC magazine) (Cited in paragraphs 3-4d(2), and 7-2d)  
<http://www-afsc.saia.af.mil/magazine/htdocs/index.html>

**<sup>(3)</sup>SAOSHI Checklist**

(USASC proponent checklist) (Cited in paragraph 3-2e)

**SC 5180-99-A11**

Sets, Kits, and Outfits Tool Kit, Army Aircraft Crash Investigation 5180-00-903-1049 (LIN W31565) (EIC N/A). (Cited in paragraph 3-7c(5)(a))  
<http://158.2.50/codebase/sclookup.html>

**TB Med 81**

Cold Injury. (Cited in Tables 3-1, and 3-2)  
<http://chppm-www.apgea.army.mil/imo/ddb/dmd/DMD/TBMEDS/tbmed81.pdf>

**TB Med 288**

Medical Problems of Man at High Terrestrial Elevations. (Cited in Table 3-2)  
<http://chppm-www.apgea.army.mil/imo/ddb/dmd/DMD/TBMEDS/tbmed288.pdf>

**TB Med 502**

Occupational and Environmental Health Respiratory Protection Program. (Cited in Table 3-1)  
<http://chppm-www.apgea.army.mil/imo/ddb/dmd/DMD/TBMEDS/tbmed502.pdf>

**TB Med 507**

Prevention, Treatment and Control of Heat Injury. (Cited in Tables 3-1, and 3-2)  
<http://chppm-www.apgea.army.mil/imo/ddb/dmd/DMD/TBMEDS/tbmed507.pdf>

**TB Med 524**

Control of Hazards to Health from Laser Radiation. (Cited in Tables 3-1, and 3-2; and paragraph 4-10a)  
<http://chppm-www.apgea.army.mil/imo/ddb/dmd/DMD/TBMEDS/tbmed524.pdf>

**TB 5-4200-200-10**

Hand Portable Fire Extinguishers Approved for Users. (Cited in Table 3-1)

**TB 43-0106**

Aeronautical Equipment Army Oil Analysis Program. (Cited in Tables 3-1, and 3-2; and paragraph 5-3)  
[http://www.logsa.army.mil/etms/find\\_etm.cfm](http://www.logsa.army.mil/etms/find_etm.cfm)

**TB 43-0142**

Safety Inspection and Testing of Lifting Devices. (Cited in Tables 3-1, and 3-2)  
[http://www.logsa.army.mil/etms/find\\_etm.cfm](http://www.logsa.army.mil/etms/find_etm.cfm)

**TB 385-4**

Safety Requirements for Maintenance of Electrical and Electronic Equipment. (Cited in paragraph 3-4d(1))  
[http://www.logsa.army.mil/etms/find\\_etm.cfm](http://www.logsa.army.mil/etms/find_etm.cfm)

**TC 1-201**

Tactical Flight Procedures. (Cited in paragraphs 4-9, and 4-13)

**TC 1-210**

Aircrew Training Program Commander's Guide to Individual and Crew Standardization. (Cited in paragraphs 1-6p(4), 4-6, and 4-7; and Table 3-4)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/tc/1-210/chg1toc.html>



**(5)TC 1-214**

Aircrew Training Manual Attack Helicopter, AH-64. (Cited in paragraph 4-7)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/tc/1-214/tc1-214.htm>

**TC 11-6**

Grounding Techniques. (Cited in paragraphs 5-7c(2), and 5-9a)  
[http://www.logsa.army.mil/etms/find\\_etm.cfm](http://www.logsa.army.mil/etms/find_etm.cfm)

**TC 21-306**

Tracked Combat Vehicle Driver Training. (Cited in paragraph 5-5c)  
<http://www.adtdl.army.mil/cgi-bin/atdl.dll/tc/21-306/tc21-306.htm>

**TG 190**

Guide to Managing Occupational Exposure to Bloodborne Pathogens. (Cited in Tables 3-1, and 3-2)  
<http://chppm-www.apgea.army.mil/imo/ddb/dmd/DMD/TGs.htm>

**(3)The Combat Edge**

U.S. Air Force Air Combat Command magazine. (Cited in paragraphs 3-4d(2), and 7-2d)  
[www2.acc.af.mil/combat-edge/](http://www2.acc.af.mil/combat-edge/)

**(4)The Psychology of Safety Handbook**

(Lewis Publishers, Inc. textbook) (Cited in paragraph 7-1 **Note**)  
<http://www.amazon.com/exec/obidos/ASIN/1566705401/>

**TM 1-1500-204-23-1**

Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (General Maintenance and Practices) Volume 1. (Cited in Tables 3-1, and 3-2; and paragraphs 4-22, 4-23, 5-4c(3)(i), 5-5a, 5-5b, 5-7d(5), 5-7d(6), and 5-9a)  
[http://www.logsa.army.mil/etms/find\\_etm.cfm](http://www.logsa.army.mil/etms/find_etm.cfm)

**TM 1-1500-204-23-9**

Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (Tools and Ground Support Equipment) Volume 9. (Cited in Tables 3-1, and 3-2; and paragraphs 5-4c(3)(i), 5-5a, 5-5b, 5-5d, 5-9c, and 5-9d)  
[http://www.logsa.army.mil/etms/find\\_etm.cfm](http://www.logsa.army.mil/etms/find_etm.cfm)

**TM 1-1500-250-23**

Aviation Unit and Aviation Intermediate Maintenance for General Tie-Down and Mooring on all Series Army Models AH-64 UH-60 CH-47 UH-1 AH-1 OH-58 Helicopters. (Cited in paragraphs 5-4c(3)(n), and 5-9b)

**TM 5-315**

Firefighting and Rescue Procedures in Theaters of Operations. (Cited in Table 3-1; and paragraph 4-16b)

**TM 5-805-4**

Noise and Vibration Control. (Cited in Tables 3-1, and 3-2; and paragraph 3-5f)  
<http://www.usace.army.mil/inet/usace-docs/armytm/tm5-805-4/>

**TM 5-820-1**

Surface Drainage Facilities for Airfields and Heliports. (Cited in paragraph 5-9c)  
<http://www.usace.army.mil/inet/usace-docs/armytm/tm5-820-1/>

**TM 5-820-4**

Drainage for Areas Other than Airfields. (Cited in paragraph 5-9c)  
<http://www.usace.army.mil/inet/usace-docs/armytm/tm5-820-4/>

**TM 5-826-6**

Procedures for U.S. Army and U.S. Air Force Airfield Pavement Condition Surveys. (Cited in paragraph 5-4c(3)(e))  
<http://www.usace.army.mil/inet/usace-docs/armytm/tm5-826-6/>

**TM 55-1500-335-23**

Nondestructive Inspection Methods. (Cited in Table 3-1; and paragraph 4-10b)

**TM 55-1500-342-23**

Army Aviation Maintenance Engineering Manual – Weight and Balance. (Cited in paragraph 4-19a(1))  
[http://www.logsa.army.mil/etms/find\\_etm.cfm](http://www.logsa.army.mil/etms/find_etm.cfm)

**TM 55-1680-317-23&P**

Army Aircraft Survival Kits. (Cited in paragraph 6-2)

**TM 55-2620-200-24**

Inspection, Maintenance Instructions, Storage, and Disposition of Aircraft Tires and Inner Tubes. (Cited in paragraphs 5-10, 5-10a through 5-10c; and Glossary – Section II)  
[http://www.logsa.army.mil/etms/find\\_etm.cfm](http://www.logsa.army.mil/etms/find_etm.cfm)

**UFC 3-260-01**

Airfield and Heliport Planning and Design. (Cited in paragraph 5-4c(3)(e))  
<http://www.hnd.usace.army.mil/techinfo/UFC/UFC%203-260-01.pdf>

**Section II****Related Publications**

**Note:** Related publications are sources of additional information. The user does not have to read them to understand this Circular (reference DA Pam 25-40, para. B-6g(2)).

**AR 600-46**

Attitude and Opinion Survey Program. (Cited in paragraph 3-1)  
[ftp://pubs.army.mil/pub/epubs/pdf/r600\\_46pdf](ftp://pubs.army.mil/pub/epubs/pdf/r600_46pdf)

**DA Pam 600-69**

Unit Climate Commander's Handbook. (Cited in paragraph 3-1)  
[http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600\\_69/CCONTENTS](http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/P600_69/CCONTENTS)

**NG Pam 385-95** (superseded by this Circular - noted only as/for such)

Army National Guard [ARNG] Aviation Accident Prevention Plan. (Cited in paragraphs History, and Summary)

**Section III**

**Prescribed Forms.** This Section contains no entries.

**Section IV****Referenced Forms****DA Form 285-AB-R**

U.S. Army Abbreviated Ground Accident Report (AGAR)

**DA Form 1119**

United States Army Certificate of Achievement in Safety

**DA Form 2028**

Recommended Changes to Publications and Blank Forms

**DA Form 2397-AB-R**

Abbreviated Aviation Accident Report (AAAR)

**DA Form 2408-13-1**

Aircraft Inspection and Maintenance Record

**DA Form 2696-R**

Operational Hazard Report (OHR)

**DA Form 4754**

Violation Inventory Log

**DA Form 4755**

Employee Report of Alleged Unsafe or Unhealthful Working Conditions

**DA Form 5758**

Award of Honor in Safety

**DA Form 5775**

Award of Accomplishment in Safety

**DA Form 7305-R**

Worksheet for Telephonic Notification of Aviation Accident

**DD Form 2272**

Department of Defense Safety and Occupational Health Protection Program

**NASA ARC 277B**

(Untitled)

**SF 368**

Product Quality Deficiency Report (PQDR)

**Section V**

**Websites Referenced (Other than Publications).**

<http://asolistserver@safetycenter.army.mil>

Subject: ASOListserver (USASC-administered list server). (Cited in paragraphs 1-6i(1), 1-6k(3), and 4-20c)

<http://usasam.amedd.army.mil/ARMS/classes/classes.htm>

Subject: Catalogue of Aeromedical Training Modules/POIs. (Cited in paragraph 1-6q(12) **Note**).

<http://www.arng.ngb.army.mil>

Subject: Catalogue of POIs for Safety Briefings. (Cited in paragraph 3-4a(1))

<http://www.safetyinfo.com/safetyinfo/html/guests/aa-g-indexes/talks.htm>

Subject: Safety Briefings. (Cited in paragraph 3-4a(1))

<http://safety.army.mil/pages/guidance/dd2272.pdf>

Subject: DD Form 2272. (Cited in paragraph 3-4d(2)(e))

<http://www.health.gov/nhic/pubs.nho.htm>

Subject: Mishap Prevention/Safety Themes. (Cited in paragraph 3-4e)

<http://guardnet.ngb.army.mil>

Subject: Listing of SAMOs (on the Surgeon's Home page). (Cited in paragraph 3-5e(2)(c))

<http://www.ilpi.com/msds/index.html>

Subject: MSDSs. (Cited in paragraph 3-6d(1))

<http://www.afip.org/oafme/tox/tox.html>

Subject: Pathology draw/collection and shipping. (Cited in paragraph 3-7c(1); and Appendix J)

[osaasafety@osaa-arng.belvoir.army.mil](mailto:osaasafety@osaa-arng.belvoir.army.mil)

Subject: Address for submission of ARNG Fixed-wing AAARs. (Cited in paragraph 3-7d(4) **Note**)

<http://www-rucker.army.mil/des/act.htm>

Subject: Ft. Rucker Crew Coordination Exportable Training Package. (Cited in paragraph 4-7)

[www.act.navy.mil](http://www.act.navy.mil)

Subject: Aircrew Coordination Training and Crew Resource Management (ACT-CRM) School. (Cited in paragraph 4-7a)

<http://www.bellhelicopter.textron.com>

Subject: Bell Helicopter Textron, Inc. Heliprops program. (Cited in paragraph 4-7a **Note**)

<http://avweb.com>

Subject: Wildfire Flight Restrictions, NOTAMs and other information relative to flight planning. (Cited in paragraph 4-9a(7)).

[http://aa.usno.navy.mil/data/docs/RS\\_OneYear.html](http://aa.usno.navy.mil/data/docs/RS_OneYear.html)

Subject: Illumination data (for Night Mission Planning and Operations). (Cited in paragraph 4-15a)

<http://indigo.ie/~gnugent/dnso/>

Subject: Illumination data (for Night Mission Planning and Operations). (Cited in paragraph 4-15a)

<http://www.oas.gov/oassaftey/library/iamrp.htm>

Subject: Interagency Aviation Mishap Response Plan. (Cited in paragraph 4-16a(1)(a))

[http://asrs.arc.nasa.gov/forms\\_nf.htm](http://asrs.arc.nasa.gov/forms_nf.htm)

Subject: NASA Form ARC 277B. (Cited in paragraph 4-20b)

<https://webdesk.redstone.army.mil/>

Subject: AMCOM Integrated Materiel Management Center's web desk - access to MIMs. (Cited in paragraph 5-1a)

<http://aeprs.ria.army.mil/>

Subject: Army Electronic Product Support web page - access to MIMs. (Cited in paragraph 5-1a)

<https://aeprs2.ria.army.mil/safety1.cfm>

Subject: Army Electronic Product Support web page - access to SOUMs and GPMs. (Cited in paragraph 5-1a)

<https://www.denix.osd.mil/denix/Public/Intl/Fallprotection/fallprotection.html>.  
Subject: DoD guidance on fall protection. (Cited in paragraph 5-5e)

<http://www.dscr.dla.mil/qs1.qsl.htm>  
Subject: QSL and instructions. (Cited in paragraph 5-7e)

<http://192.138.48.104/>  
Subject: United States Army School of Aviation Medicine training course schedules. (Cited in paragraph 7-1f)

<http://www.arng.ngb.army.mil>  
Subject: DA Forms 5758 and 5775. (Cited in paragraph 7-5c)

<http://www.bellhelicopter.textron.com/content/customerSupport/flightSafety/awards.html>  
Subject: Bell Helicopter Textron safety awards. (Cited in paragraph 7-5p)

(Appendix B and subsequent Circular text continued on next page.)

## Appendix B:

**Safety Posture Assessment and Report (SPAR).** This Appendix is largely applicable (only) to NGB-AVS-SA, as a POI; and NGB-AVS, in terms of how best to allocate resources to the collective and individual Units and Facilities. However, it provides invaluable insight and a means for the Unit/Facility Commander to accurately and realistically view their operations in terms of lessons learned, current operations appraisal, and projection of upcoming needs. **The purpose of this Appendix** is to provide the instructions on how to effectively tabulate this data so it presents a uniform and accurate picture. Further, tabulation of this data to compose a SPAR is mandated *only at the MACOM (NGB)-level*. Subordinate Units/Facilities are directed to submit the elements of the SPAR in accordance with existing instructions, found in this and other command media. **This Appendix:** a) Defines the SPAR; b) provides a detailed explanation of each of its elements, in addition to the calculation of each element and the total assessment; and c) provides instructions on how the SPAR is to be used. In short, many safety awards are now hinged to the SPAR (see Chapter 7 of this Circular), as are determinations as to survey and training frequencies (see Chapter 3 of this Circular).

B-1. Surveys, inspections, queries, data collection - and the host of traditional activities that probe various applications of safety program implementation - are each invaluable tools. Therein lies the very shortcoming in gauging the success of a safety program using a single survey, inspection or the like - they only provide the customer of the end-item report with a single view, from a single direction (often at a single point in time), of the health of the safety program.

B-2. All of the elements of the SPAR are already available, and nearly all are already required by other regulations. The truest, *most accurate assessment* of the safety posture of a given organization *sheaves together these various measurements* in an objective fashion. This broad view of the whole safety program (which is a component of each operation) provides a solid foundation of understanding the Safety Posture of a given organization.

B-3. **Elements of the SPAR** include, in no implied order: Accident Prevention/Safety Surveys, Resource Management Surveys, Accident Reporting Quality, Accident Reporting Timeliness, Accident Rates, Accident Causations, Maintenance Program Measurements, Logistics Program Measurements, Safety-Related Education/Implementation, Safety Perceptions, and OPTEMPO.

B-4. The elements of the SPAR, each weighted IAW Table B-1, comprise the numerators and denominators of the SPAR computations. The accompanying Table Notes detail the function of SPAR computation, and recommendations for different thresholds of assessment quotient(s). Depending on the type of Unit/Facility, and its geographic and command relationships, different numerators are employed, as described below:

a. Facilities receive input from each of the elements of the SPAR. As such, the SPAR elements for that Facility are used to perform the assessment.

b. Battalions/Squadrons, and their co-located Companies/Troops and Detachments, are assessed in the same fashion as Facilities.

c. Separate Companies/Troops and Detachments are not necessarily subjected to all components of the SPAR. As such, SPARs are not developed or required for elements below a Battalion/Squadron or Facility. However, should a SPAR be determined as necessary below the Battalion/Squadron or Facility level, consider: For each component of the SPAR not applied directly to the separate Company/Troop or Detachment, the equivalent element of the supporting Facility shall be used as that specific numerator.

d. Likewise, Brigades, Groups, Regiments, and higher-echelon organizations are only subjected to the SPAR through their subordinate elements. Should a SPAR be determined as necessary above the Battalion/Squadron or Facility level, consider: SPARs are computed using the adjusted weights of their elements. For instance, to compute the SPAR of a 1,500-person Regiment, distributed across six Battalions plus a Headquarters Company, the SPAR must reflect treatment of the six Battalions and the Headquarters

Company. This requires composition of certain elements of the SPAR for the Headquarters Company using supporting Facility data, then adjusting the seven individual SPARs so that a 60-person Headquarters Company is not weighted equally with the six 300-person Battalions.

e. OSAA/OSACOM elements subjected to the SPAR may augment Table B-1 with a composite CIP score. Since the CIP also entails a detailed evaluation of the Standardization program - beyond that of the ARMS - the CIP should be weighted more heavily than a Resource Management Survey, but no more than that of an Accident Prevention/Safety Survey. To accurately compute the SPAR, augmentation of Table B-1 with a CIP score also requires adjustment of each Weighted Factor.

**B-5. Frequency.** SPARs are conducted by NGB-AVS-SA biennially on/for each ARNG Aviation Battalion/Squadron and Facility; as requested by an SAAO, or Brigade/Group/Regimental Commander; or as directed by the President of an AIB appointed IAW AR 385-40 for a Class A, B, or C accident. Ad-hoc SPARs are subject to incomplete data, and certain substitutions may be required (for example, using the supporting Facility ARMS in place of that of one for/of a Battalion). The results of a scheduled SPAR are provided to the cognizant Battalion/Squadron/Facility Commander, the cognizant SAAO(s), and the Chief – ARNG Aviation and Safety Division. Recipients of the SPAR will direct resources required to remedy shortcomings and adverse trends identified by the SPAR, in addition to ensuring resources are protected to perpetuate aspects of the Unit/Facility operation that are strong suits and positive trends.

**B-6. Sensitivity of SPAR Data.** Certain sources of data for/of the SPAR are sensitive in nature, and fall under the auspices of AR 340-21 (The Army Privacy Program). Accident rates, causations, safety perceptions, and many other SPAR elements may be taken out of context or used in an improper manner if shared with parties not directly involved. Individuals other than the Unit/Facility Commander being assessed must resist second-guessing or micromanaging. Used incorrectly, the SPAR may be viewed as a biennial annoyance and a program that commanders would receive as biased and worthless. Most specifically, Units and Facilities will not be rated one against another – at any level. The surest way to degrade or negate the effectiveness of the SPAR is for one State/Territory to be rated against its 52 counterparts in the audience of AGs. To that end, SPARs will not be compiled as a compendium outside of NGB-AVS, and at no time will such compendium be shared beyond NGB-AVS.

#### **B-7. Computing the SPAR.**

a. **Accident Prevention/Safety Surveys** (see paragraph 3-2 of this Circular) are required semiannually of all aviation Units/Facilities in the ARNG (except as provided in paragraph 3-2d of this Circular). As such, this element of the SPAR is calculated by dividing total number of applicable questions in the survey used into the number of affirmative/correct responses (that is, those responses that indicated compliance with the requirement). For example, the ASAAPS (reference NGR 385-5) is used at a Facility for the semiannual accident prevention survey; and 650 of the 728 questions are deemed applicable. Of these 650 questions, 25 evidenced the Facility to be in noncompliance with some aspect of some safety-related requirement. 625 divided by 650 = .96 (rounding to two-place decimals). The four (or two, for Units performing only annual) AAPs for the biennial period are then averaged. This quotient would be multiplied by a weight of .154 in Table B-1 and added with the other SPAR elements for the total assessment.

b. **Resource Management Surveys.** Resource Management surveys, such as those administered by FORSCOM under the ARMS program, differ significantly from AAPs. Although there are some similarities, and even some overlap in some of the questions posed, the two surveys differ in terms of scope and depth: Resource Management surveys are, by definition, broad-spectrum evaluations that measure how the aviation resources are being used, cared for, and reported about. Due to the breadth of this valuable tool to the Commander, no single aspect of the survey probes very deep in the wide array of disciplines concerned. Conversely, Accident Prevention/Safety Surveys are fairly narrowly focused on how the Unit/Facility is striving to preclude the next accident, and comply with safety regulations from multiple levels of government and command agencies.

(1) FORSCOM, as requested by the ARNG, performs ARMS at most ARNG aviation Units and Facilities every 18 to 24 months. This survey employs an electronically published (and easily accessible),

and well-advertised checklist. FORSCOM also makes available a “Smart Book”, that helps Units/Facilities to more closely connect the questions posed in the ARMS Checklist to the published regulatory basis for the question. Because of the predictable schedule of the ARMS, in addition to its defined purpose and routine update, it serves as an excellent inclusion to the SPAR.

(2) As with the Accident Prevention/Safety Survey, this element of the SPAR is calculated by dividing the total number of applicable questions in the survey into the number of affirmative/correct responses (that is, those responses that indicated compliance with the requirement). For example, 816 of the 1,119 questions are deemed applicable. Of these 816 questions, 47 evidenced the Facility to be in noncompliance with some aspect of some resource-related requirement.  $769 \text{ divided by } 816 = .94$  (rounding to two-place decimals). This quotient would be multiplied by a weight of .1145 in Table B-1 and added to the other SPAR elements for the total assessment.

c. **Accident Data.** Accident data provides invaluable insight in terms of how serious a Unit/Facility is in determining what went wrong when materiel is damaged or personnel are adversely affected. Reporting quality, timeliness, rates, and causations are each examined and weighted in the SPAR. Of these, *reporting quality* is weighed more heavily than the other three accident data considerations – due to its defined usefulness in composing the SPAR. Collectively, accident data provides nearly a quarter of the weighted assessment of the SPAR. As such, the failure of a Unit/Facility to report accidents or incidents completely undermines the ability of others to learn from the unfortunate experience. ARNG files will be compared to those maintained by USASC in (the) Risk Management Information System (RMIS) to ensure every aspect of Unit/Facility intent for reporting compliance is considered. To convey the gravity of accident data, should a discrepancy appear between accidents/incidents that occurred and accidents/incidents that were not reported IAW AR- and DA Pam 385-40, (under-reporting or non-reporting), all four accident data elements of the SPAR will be reported as nil for the assessed period. The SPAR will be specifically appended with such notations, to distinguish them from assessments of Units/Facilities that may have enjoyed no accidents in a given period.

d. **Accident Considerations.** The SPAR entails four considerations of accidents/incidents, their processing, and results: 1) Accident/Incident reporting quality; 2) accident reporting timeliness; 3) accident rates; and 4) accident causations. Collectively, these considerations comprise the highest assessment aspect of the SPAR. Considering the volume of reports processed by the ARNG, however, simplicity in the assessment scheme is mandated. Units/Facilities are highly encouraged to take heed of the lessons learned from accidents, and make every effort possible to present accident data in a factual and timely manner. This aspect of the SPAR is one of the key indicators of whether a Unit/Facility takes its accidents/incidents, accident record, and desire to learn every lesson possible from each accident/incident, seriously.

(1) **Accident/Incident Reporting Quality.** Forms used for accident reporting are defined in AR 385-10, AR 385-40 and DA Pam 385-40. These reports range from the very simple obverse of a single-page form, to the very complex - requiring over a ream of paper in their end printed state. Those accidents/incidents reported in their end-state are assessed as “Satisfactory” or “Unsatisfactory”. The score of each report is tracked by NGB-AVS-SA, and averaged at the end of the biennial period. This product is multiplied by a weight of .077 in Table B-1 and added to the other SPAR elements for the total assessment. NGB-AVS-SA shall make note in the SPAR of exceptionally complex reports, and other anomalies noted, submitted throughout the biennial period.

(a) “Satisfactory” reports are those defined as submitted to NGB-AVS-SA with little or no errors, and are largely presentable for forwarding to USASC with only minor corrections required on the part of NGB-AVS-SA. The report is graded on a percentage scale with 70 being the minimum satisfactory score.

(b) “Unsatisfactory” forms are those requiring corrections of more than 30 percent, and warrant return to the originator for correction or amendment (see paragraph 3-7e(1) of this Circular). The absolute score for a returned form is 70 percent, regardless of its technical accuracy after resubmission. Failure of the submitter to return the form corrected results in a zeroed assessment for all four Accident considerations assessments, and specific notation on the SPAR, for the entire biennial period.



(2) **Accident Reporting Timeliness.** A key factor in precluding the next accident, and the possible issuance of SOF or other messages hinges (at least in part) on how quickly the essence of the accident report is conveyed. Delays in reporting due to requirements internal to NGB-AVS shall not be reflected on the SPAR. However, timeliness, or lack thereof, is otherwise a direct reflection upon the Unit/Facility SPAR. Reports must be received by the ARNG for further forwarding to USASC within defined timelines (reference DA Pam 385-40, Table E-1). Reports received by NGB-AVS-SA within the prescribed time period for that report are given a score of 100. For each percent delay in the submission of the report to NGB-AVS-SA, the score for the report is reduced a corresponding percent. IAW this Circular, AR 385-40, and DA Pam 385-40, NGB-AVS-SA is responsible for requesting and coordinating extensions given in reporting from USASC. As such, each request for extension is considered on a case-by-case basis. Extensions granted are given a "report expected by" date, and the clock is stopped for the extension period. Upon expiration of the extension period, the clock resumes. And, the minimum score for the timeliness of a given report is nil. As noted earlier, failure of the submitter to return a form requiring corrections results in a zeroed assessment for all four Accident considerations assessments, and specific notation on the SPAR, for the entire biennial period. The score of each report is tracked by NGB-AVS-SA, and averaged at the end of the biennial period. This product is multiplied by a weight of .0385 in Table B-1 and added to the other SPAR elements for the total assessment.

**Note:** Also see paragraph 1-6n(5)(a) for potential discovery of otherwise unreported accidents, evidenced by an ECOD or ACOD received for accident-caused damage for which no accident report was filed.

(3) **Accident Rates.** Accident rates rarely, if ever, tell the true story of what a Unit or Facility is experiencing. Although safety awards are largely based on accident rates, their relatively low weight in the SPAR should serve as an indicator of their perceived value in an overall assessment. A superb Unit may be going through an exceptionally difficult period. Conversely, a Facility that doesn't even have an SOP, could be experiencing a string of good fortune. Because of the potential for lack of uniformity in accident rates, and their methods for reporting, the SPAR includes the assessment of Accident/Incident causations. In doing so, it principally considers recurrence – or more specifically, the absence thereof – in weighing accident rates. However, the SPAR would be incomplete without some degree of consideration given to rates. To that end, Units/Facilities are measured, in binary terms, how they contributed or distracted from the Class A through F ARNG Aviation Accident/Incident rate(s) for the biennial period. Units/Facilities that have enjoyed an accident/incident rate below (a more desirable statistic) that of the ARNG for both of the years in the biennial SPAR assessment period are awarded 100 points. Those with accident/incident rates below that of the ARNG for only one of the two years biennial years are awarded 50 points. However, if the Unit/Facility overall biennial accident/incident rate is still above that of the ARNG, the SPAR will reflect 70 points. The points are multiplied by a weight of .0385 in Table B-1 and added to the other SPAR elements for the total assessment. For those Units/Facilities that raised the ARNG accident rate in both of the biennial periods, the SPAR will reflect a nil.

(a) As a check-and-balance in ensuring accuracy in reported accident rates, NGB-AVS-SA shall compare the POL dollars expended, hours flown, and parts dollars expended, for each Unit/Facility; and (then) compare these figures against those of other like-equipped and manned Units/Facilities. If the accident rates for each like-equipped and manned Units/Facilities differ by more than ten percent, NGB-AVS shall request, or conduct, a survey of the maintenance and safety files of both Units/Facilities to determine over- or under-reporting of accidents/incidents. The conduct, and results, of such surveys shall be noted in the SPAR for each Unit/Facility determined to be over- or under-reporting of accidents/incidents.

(4) **Accident Causations.** "Are we learning from our mistakes?" is the question posed in this element of the SPAR. To accurately assess causation without undue statistical management burden, a simple tiered approach is taken.

(a) As required in this Circular, each accident/incident report must be appended with a HAZLOG number. Some remedies will require elevation beyond the Unit/Facility, and the HAZLOG item is required to remain open until the remedy is emplaced, and its effectivity realized (see definition of "Effectivity" in the Glossary and see paragraph 3-7e of this Circular). If all accidents/incidents experienced within the

command for the biennial period are occurrences (see definition of "Occurrence" in the Glossary), a score of 100 points will be awarded. The points are multiplied by a weight of .0385 in Table B-1, and added to the other SPAR elements for the total assessment. Recurrent accidents/incidents (see definition of "Recurrence" in the Glossary) – whether or not responsibility for correcting the root cause lay within the Unit/Facility during the biennial period – will cause this aspect of the SPAR to reflect nil. Regardless of occurrence or recurrence, any accident/incident caused by a blatant disregard for published standard(s), as found by the AIB convened, will zero-out the accident causation assessment for the Unit/Facility for the biennial period.

e. **Maintenance Program Measurements.** Maintenance Program measurements serve as a command evaluation tool that must be used in conjunction with other command evaluations, both formal and informal, to evaluate the effectiveness of Unit/Facility-level maintenance operations and the combat readiness of all categories of maintenance. Although principally a surface maintenance tool, the Command Maintenance Evaluation Team (COMET) inspection, as performed IAW NGR 750-51 (Command Maintenance Evaluation Team [COMET]), serves as the centerpiece for this aspect of the SPAR. Like the ARMS, Units/Facilities are subjected to the COMET every 18 to 24 months. The survey employs a published checklist (NGR 750-51, Appendix D), but differs from the ARMS checklist in its less-frequent revisions. Because of the predictable schedule of the COMET, in addition to its defined purpose and stability as a program, it serves as an excellent inclusion to the SPAR.

(1) As with the Resource Management, and the Accident Prevention/Safety Surveys, this element of the SPAR is calculated by dividing the total number of applicable questions in the survey into the number of affirmative/correct responses (that is, those responses that indicated compliance with the requirement). For example, 87 of the 104 questions are deemed applicable. Of these 87 questions, 11 evidenced the Unit/Facility to be in noncompliance with some aspect of some maintenance-related requirement.  $76 \text{ divided by } 87 = .87$  (rounding to two-place decimals). This quotient would be multiplied by a weight of .077 in Table B-1 and added to the other SPAR elements for total assessment.

f. **Logistics Program Measurements.** Logistics Program measurements serve as assessments and assistance to review of Unit/Facility logistics operations to identify and resolve logistics problems that are adversely affecting the readiness posture of the Unit/Facility, and to take corrective action on logistics problems that are resolvable at the Unit/Facility-level and may be of interest during subsequent audits, command inspections, reviews, or assistance visits. A cousin of the Maintenance Program Measurement, Logistics Programs Measurements are conducted IAW AR 11-1 (Command Logistics Review Program [CLRP]); and NG Pam 11-1 (Command Logistics Review Program [CLRP]), and serve as the centerpiece for this aspect of the SPAR. Similar to the ARMS, Units/Facilities are subjected to the CLRP every 36 months. The CLRP differs significantly from other forms of surveillance, however, in its absence of a regimented or controlled checklist. Rather, AR 11-1, para. 7, denotes 76 areas and subjects of assessment, and leaves a great deal of subjectivity and discretion due to the assistance nature of the program.

(1) As with the Resource Management, Accident Prevention/Safety, and Maintenance Program Management Surveys, this element of the SPAR is calculated by dividing the total number of applicable areas and subjects of assessment into the number of affirmative/correct responses (that is, those responses that indicated compliance with the requirement. Since only noncompliance is reported in the CLRP, all areas and subjects are considered applicable). For example, of these 76 areas and subjects, nine evidenced the Unit/Facility to be in noncompliance with some aspect of some logistics-related requirement.  $67 \text{ divided by } 76 = .88$  (rounding to two-place decimals). This quotient would be multiplied by a weight of .077 in Table B-1 and added to the other SPAR elements for total assessment.

g. **Safety-Related Education/Implementation.** This element of the SPAR measures compliance with baseline and continuing safety-related education of the Commander, Safety and Operations staffs of the Unit/Facility. See paragraph 7-1 of this Circular for specific criteria. This training, while meeting the criteria of this and countless other directives for various training courses, also gauges the willingness of the command to comply with the requirements of AR 385-10; and 29 CFR 1960.55, and the several sub-topics required within this training.

(1) The percentage of the Safety team, Operations staff, and Commander – as a combined entity – are measured as compliant or non-compliant with the requirements of paragraph 7-1. For example: The Commander and Operations Officer should attend an AMPOC. The Commander has met this obligation, while the Operations Officer in 13 months of assigned duty, has not. The Facility Safety Officer is required attendance at an ASO MOS-producing course, and has met this obligation. The Facility ASNCO is four months in position, and is scheduled to attend a formal safety course of instruction. Of the four positions, three are in compliance (noting the ASNCO has eight months yet to comply), for 75 percent. This product would be multiplied by a weight of .1155 (being just slightly more heavily weighted than Resource Management Surveys) in Table B-1 and added to the other SPAR elements for total assessment.

h. **Safety Perceptions.** Safety Perceptions surveys serve as the principal yardstick by which commands may make adjustments to training plans and operations year-to-year based on direct input from a wide demographic – both in terms of subordinate elements and rank. Safety Perceptions surveys differ significantly from other elements of the SPAR, in that others deal directly with the objectivity of materiel and reporting: Like the car stalled at the side of the road, the engine beneath the hood may look fine, but has problems nested deep between the carburetor and oil pan. Like some other elements of the SPAR, Units/Facilities should be subjected to the Safety Perceptions survey biennially. The survey employs a published checklist (Appendix K of this Circular), and enjoys concomitant update with this Circular. Because of the predictable schedule of the Safety Perceptions survey, in addition to its defined purpose, it serves as an excellent inclusion to the SPAR.

(1) Differing from other elements of the SPAR, the Safety Perception survey (form) poses 32 questions, and asks the participant to respond using a scale of one through five. See paragraph 3-1 of this Circular. Although the survey itself is typically reported within the Unit/Facility by demographic breakdown in addition to composite entirety, NGB-AVS-SA will use only the composite entirety in composing the SPAR. In order to accurately reflect the safety perceptions of the Unit/Facility, at least 60 percent of the Unit/Facility must have responded by completing the survey. This element of the SPAR is then calculated by multiplying the averaged composite scores of all the received surveys by two. For example, the average of all 32 questions, of all surveys returned is 4.14. 4.14 multiplied by two = 8.28 (rounding to two-place decimals). This product would be multiplied by a weight of .154 in Table B-1 and added to the other SPAR elements for total assessment. The significant weight assigned to this element of the SPAR should convey to commanders at all levels the gravity thereof. The interviews conducted in the wakes of so many catastrophes have evidenced comments such as “...you could see this one coming...” Much as the Securities and Exchange Commission enacted certain federal codes requiring the informing of the chief executives of all aspects of the business of a public company, the Safety Perceptions Survey serves as a major pillar of the SPAR, and the admonishments for its use within this Circular should be heeded.

i. **OPTEMPO.** Measuring the degree to which the resources are utilized, and the tolls certain usage takes, is a key element of the SPAR. Weighted more heavily than Resource Management surveys, and equally to the value placed on Safety-related training, OPTEMPO serves as a barometer of potential personnel turnover, and the ability to apply lessons learned from “real” missions, as opposed to simply preparation therefore. In determining the toll OPTEMPO has taken, or will take, on a Unit/Facility, considerations are given to: Activations; EXEVALS, such as those performed by the XXI Cavalry at Ft. Hood, TX, for combat certifications; and CTC or ODT rotations. For purposes of measuring the OPTEMPO, more than 20 percent of a TDA Facility must have been directly involved (deployed), and more than 50 percent of an MTOE Unit must have been directly involved (deployed).

(1) If no Unit/Facility activations, EXEVALs or CTC/ODT rotations have occurred in the previous biennial period, and no EXEVALs or CTC/ODT rotations are scheduled to occur in the upcoming biennial period, the OPTEMPO will be factored at 100 (points).

(2) If the Unit/Facility was activated (for example, State Active Duty [SAD] for disaster response) in the previous biennial period, for more than 14 days, the OPTEMPO assessment will be factored by reduction of ten points.

(3) If a Unit/Facility has been involved in an EXEVAL, or a CTC/ODT rotation in the previous biennial period, or is scheduled to be involved in an EXEVAL, or a CTC/ODT rotation in the upcoming biennial period, the OPTEMPO will be factored at 75.

(4) If a Unit/Facility has been involved in an EXEVAL, or a CTC/ODT rotation in the previous biennial period, and is scheduled to be involved in an EXEVAL, or a CTC/ODT rotation in the upcoming biennial period, the OPTEMPO will be factored at 50.

(5) For example, the OPTEMPO assessment for a given AASF reflects an activation in the previous biennial period for a State snow emergency, involving 40 percent of the Facility for 22 days – a reduction of ten points. Additionally, 55 percent of the AASF personnel will be deployed for an ODT rotation with its principal supported Battalion in the upcoming biennial period – an OPTEMPO factor of 75 – the total OPTEMPO factor would be 65. This total factor would be multiplied by a weight of .1155 in Table B-1 and added to the other SPAR elements for a total assessment.

(Table B-1 and subsequent Circular text continued on next page.)

SAFETY POSTURE ASSESSMENT AND REPORT (SPAR)				
Unit/Facility:		UIC:		
Assessment Period:				
SPAR Element <sup>(1)</sup>	Computed By:	Note	Multiply by a Weighted Factor of:	SPAR Element Assessment
Accident Prev./Safety Surveys	# of sat. responses divided by # of applicable questions. Average four S/A (or two annual) responses.	2	.154	
Resource Management Surveys	# of sat. responses divided by # of questions.	3	.1145	
Accident/Incident Reporting Quality	Score of each report, averaged over biennial period.	4, 5, 6	.077	
Accident Reporting Timeliness	On time = 100, less 1% for each % tardy. All reports averaged over biennial period.	5, 7	.0385	
Accident Rates	<ARNG avg. 1 year = 50 or 70. < ARNG avg. 2 years = 100. > ARNG avg. 2 years = 0.	5, 8	.0385	
Accident Causations	No recurrence = 100. Recurrence = 0.	5, 9	.0385	
Maintenance Program Measurements	# of sat. responses divided by # of questions.	10	.077	
Logistics Program Measurements	# of sat. responses divided by # of questions.	11	.077	
Safety-Related Education/Implementation	% of Safety-(required) trained.	12	.1155	
Safety Perceptions	All surveys/questions averaged X2.	13	.154	
OPTEMPO	Act. -10; EXEVAL, CTC or ODT in either biennial period = 75; EXEVAL, CTC or ODT in both biennial periods = 50.	14	.1155	
<b>Total SPAR Assessment:</b>				

**Notes:**

1. See paragraph B-4e regarding OSAA/OSACOM CIP augmentation considerations.
2. See paragraph B-7a for detailed explanation of element computation.
3. See paragraph B-7a(2) for detailed explanation of element computation.
4. See paragraph B-7d(1) for detailed explanation of element computation.
5. Certain criteria may prompt a nil entry. See attached explanation and notes sheets regarding zeroed assessments.
6. Some exceptionally complex reports may require specific notation.
7. See paragraph B-7d(2) for detailed explanation of element computation.
8. See paragraph B-7d(3) for detailed explanation of element computation.
9. See paragraph B-7d(4)a for detailed explanation of element computation.
10. See paragraph B-7e(1) for detailed explanation of element computation.
11. See paragraph B-7f(1) for detailed explanation of element computation.
12. See paragraph B-7g(1) for detailed explanation of element computation.
13. See paragraph B-7h(1) for detailed explanation of element computation.
14. See paragraph B-7i(5) for detailed explanation of element computation.

**Safety Posture Assessment and Report (SPAR)**  
**Table B-1**

### Appendix C: Sample MARKS Files Labels.

**Note:** These sample MARKS Files Labels are composed for an ARNG Aviation Battalion with subordinate Companies; a Group, Troop Command, State Area Command (STARC), Directorate of Aviation and Safety (DOAS), etc., as higher headquarters; and is supported by an AASF. The left column in this Appendix lists the suggested MARKS File Labels, typically used on hanging file tabs. The center column lists suggested (Unclassified) manila folder inserts to corresponding hanging files. The right column provides applicable comments to a respective File Label or folder. Certain modifications will be required to use this appendix, based on the organization type and structure. The sample MARKS File Labels are compiled for FY 02, and “bumping” each 02 reference would be required to use these same samples for FY 03 and subsequent years. Always consult AR 25-400-2 when compiling MARKS files.

Sample MARKS (Hanging) File Tab Label	Suggested Manila Folder Insert Sub-File Label.	Comments
<b>385-1a</b> <b>Troop Command Safety Info</b> <b>(TPCMD, DOAS, STARC) (02)</b> <b>COFF 30 Sep 02 Dest Oct 04</b>		This file may include any correspondence except Safety Council minutes – which is maintained in a separate file.
<b>15-11a COMMAND SAFETY (02)</b> <b>Replace When Updated</b>	<b>(U) HIGHER HQ</b> <b>CORRESPONDENCE</b>	This file should correspondence from the immediate higher Headquarters (e.g., Group), MFRs generated by the ASO, Safety Budget information, and Supply (S-4) requests.
	<b>(U) MFRs</b>	
	<b>(U) SAFETY BUDGET</b>	
	<b>(U) SUPPLY REQUESTS</b>	
<b>385-10a SAFETY SURVEY FILES</b> <b>(02)</b> <b>COFF 29 Sep 02, TRF HRA Oct 04,</b> <b>Dest Oct 08</b>	<b>(U) FOD SURVEYS</b>	FOD Surveys may be those provided by an AASF under an MOA.
	<b>(U) FARP SURVEYS</b>	
	<b>(U) TACTICAL LANDING AREA</b> <b>SURVEYS</b>	
<b>385-10b SAFETY SURVEY (AAPS)</b> <b>(02)</b> <b>1st Semi-Annual Period</b> <b>COFF 30 Mar 02 TRF HRA Apr 04</b> <b>Dest 1 Apr 08</b>		This does not imply semiannual AAPS are always required. See paragraph 3-2d.
<b>385-10c SAFETY SURVEY (AAPS)</b> <b>(02)</b> <b>2nd Semi-Annual Period</b> <b>COFF 30 Sep 02 TRF HRA Oct 04</b> <b>Dest 1 Oct 08</b>		
<b>385-11a RADIATION INSPECTIONS</b> <b>(02)</b> <b>Retain in CFA Pending</b>		385-11 cites an NGR – not the AR (in this case). Also, many 385-11 functions are administered by an OHN, an Industrial Hygienist or a State Safety Manager, and these files may see no entries for the year.
<b>385-10d SAFETY HAZARD FILES</b> <b>(02)</b> <b>COFF 30 Sep 02, TRF RHA Oct 02</b> <b>Dest Oct 04 (Dummy)</b>		
<b>385-10e OHR SUSPENSE (02)</b> <b>Retain in CFA Pending</b>		
<b>385-10f OHR COMPLETED (02)</b> <b>COFF 30 Sep 02 TRF HRA Oct 04</b> <b>Dest 1 Oct 08</b>		
<b>385-10g HAZARD INVENTORY (02)</b> <b>LOG</b> <b>COFF 30 Sep 02 TRF HRA Oct 04</b> <b>Dest 1 Oct 08</b>		In carrying-forward HAZLOG items year to year, be sure a complete history is left in the previous years' files.
<b>385-10h ACCIDENT PREVENTION</b> <b>(02)</b> <b>WORKSHEET</b> <b>Retain in CFA Pending</b>		Optional use form.
<b>385-11b RADIATION PROTECTION</b> <b>SURVEYS (02)</b> <b>COFF 30 Sep 02 TRF HRA Oct 04</b> <b>Dest 1 Oct 08</b>		

385-11c RADIATION PROTECTION TRAINING (02) COFF 30 Sep 02 TRF HRA Oct 04 Dest 1 Oct 08		This file may have some redundancy with the Safety Classes file.
385-11d RADIATION SOPs, REGULATION and GUIDANCE (02) Retain Thru Need		
385-11e RADIATION ANALYSES (02) Retain in CFA Pending		
385-11f RADIATION SOURCE ACCOUNTING FILES (02) Retain in CFA Pending		
385-11g PERSONNEL DOSIMETRY FILES (02) DD Forms 1141 per Title 10 CFR		
385-11h DOSIMETRY BADGE CONTROLS (02) COFF 30 Sep 02 TRF HRA Oct 04 Dest 1 Oct 08		
385-11i RADIATION REPORTS (02) Retain in CFA Pending		
385-40a AAARS (02) COFF 30 SEPT 02, TRF RHA Oct 04 Dest Oct 07	(U) 1Q02 (U) 2Q02 (U) 3Q02 (U) 4Q02	Because of the number of AAARs generated by a Battalion in a typical year, folders broken down by quarter are recommended.
385-1b SAFETY AWARENESS FILES (02) COFF 30 Sep 02, TRF RHA Oct 03 Dest Oct 04	(U) Flightfax (U) Countermeasure (U) Air Force Publications (U) Navy Publications (U) Industry Publications (U) Newspaper Clippings (U) Internet Articles (U) ASOListserver Postings	After posting each of these to the Safety Bulletin Board for Unit reading, file each in the respective sub-Folder for retention.
385-10i SAFETY CLASSES (1/4'y) (02) COFF 30 Sep 02, TRF RHA Oct 03 Dest Oct 04	(U) 1Q02 (U) 2Q02 (U) 3Q02 (U) 4Q02	Whether Safety Briefings/Classes are conducted quarterly or monthly, breaking the folders down by quarter assists in filing and retrieving. These files may also include copies of Right-to-Know training records – the original of which is to be maintained in the individuals' personnel jacket.
385-10j GROUND SAFETY MEETING (02) COFF 30 Sep 02, TRF RHA Oct 03 Dest Oct 04		
95-1a ALSE STEERING COMMITTEE MEETING (02) COFF 30 Sep 02, TRF RHA Oct 03 Dest Oct 04		
385-95a COMMAND SAFETY COUNCIL MINUTES (GRP, TC, State, Etc.) (02) COFF 30 Sep 02, TRF RHA Oct 03 Dest Oct 04	(U) Group (U) Troop Command (U) State	
385-95b SAFETY COUNCIL MINUTES (AASF, BN [and Supported Units]) (02) COFF 30 Sep 02, TRF RHA Oct 03 Dest Oct 04	(U) BN Agendas (U) BN Minutes (U) AASF Agendas (U) AASF Minutes (U) Supported Units Agendas (U) Supported Units Minutes	Agendas are not required, but a sample sub-folder is shown here. The Supported Units sub-folders may be used for a Company of the Battalion that has been deployed as part of a Task Force, or for those organizations OPCON'd or attached to the Battalion that conduct their own Safety Council meetings.
385-40b ACCIDENT EXPERIENCE FILES (02) COFF 30 SEPT 02, TRF RHA Oct 04 Dest Oct 07	(U) AGARs	
385-40c ACCIDENT/INCIDENT CASES (02) (Dummy Header Files)		

385-40d ACCIDENT/INCIDENT CASES (BN) (02) COFF 30 SEPT 02, TRF RHA Oct 04 Dest Oct 07	(U) DA Forms 285	
385-11j RADIATION INCIDENT CASES (02) Retain in CFA Pending		
385-95c AVN SAFETY STATISTICS FILES (02) COFF 30 Sep 02 TRF RHA Oct 02 Dest Oct 04	(U) RMIS Printout (U) FAA/NTSB Printout (U) State Printout	No specific statistics are required to be maintained below the State level.
420-90a FIRE PREVENTION FILE (Fire Drills, etc.) (02) COFF 30 Sep 02, TRF RHA Oct 03 Dest Oct 04	(U) FIRE DRILL RECORD (U) FIRE INSPECTION (Survey) RECORD (U) Fire Extinguisher Log	
672-74a SAFETY AWARDS (02) COFF 30 Sep 02, TRF RHA Oct 02 DEST when no longer needed	(U) 1Q02 (U) 2Q02 (U) 3Q02 (U) 4Q02	
95-1b FLIGHT SAFETY MESSAGES (02) COFF 30 SEPT 02, TRF RHA Oct 04 Dest Oct 07	(U) SOF (U) ASAM (U) MIM (U) SOUM (U) GPM	A copy of these should always be forwarded to the AMO or QC Section.

(Appendix D and subsequent text continued on next page.)



**Appendix D: HAZARD INVENTORY LOG**

HAZLOG No. _____ - _____ - _____ UIC FY Seq No.				PROGRAM				Program Manager:								
Date Initiated:								Program Coordinator:								
STATUS:	Open		Closed		Occurrence		AFFECTED AREA:									
					Repeat Occurrence											
					Recurrence											
EVENT SOURCE:	Personal Observation				ARMS				COMET				Accident/Incident			
	AAPS/SAOSHI				CLRT				FOD Survey				Other ( )			
Individual/Agency Responsible:					Deficiency/OI:					RAC	Corrective Action:					
Reference/Authority:																
Target Comp. Date:				Date Completed:				System Defect Worksheet No.:				Abatement Cost:		\$		

HAZLOG No. _____ - _____ - _____ UIC FY Seq No.				PROGRAM				Program Manager:								
Date Initiated:								Program Coordinator:								
STATUS:	Open		Closed		Occurrence		AFFECTED AREA:									
					Repeat Occurrence											
					Recurrence											
EVENT SOURCE:	Personal Observation				ARMS				COMET				Accident/Incident			
	AAPS/SAOSHI				CLRT				FOD Survey				Other ( )			
Individual/Agency Responsible:					Deficiency/OI:					RAC	Corrective Action:					
Reference/Authority:																
Target Comp. Date:				Date Completed:				System Defect Worksheet No.:				Abatement Cost:		\$		

Page No. \_\_\_\_

## **Appendix D (Continued)**

### **HAZLOG Instructions**

**HAZLOG No.:** Compose the HAZLOG number by entering the UIC of the Unit/Facility in the "UIC" space; the Fiscal Year in the "FY" space; and the sequence number of the HAZLOG entry (e.g., the first HAZLOG entry would be "001", the second would be "002", and so forth) in the "Seq No." space.

**Date Initiated:** Enter the date the HAZLOG notation was indicated.

**PROGRAM:** Enter the most affected Safety- or Safety-related program from Appendix F.

**Program Manager:** Enter the cognizant Program Manager from Appendix F.

**Program Coordinator:** Enter the cognizant Program Coordinator from Appendix F.

**Status:** Check "Open" when the HAZLOG entry is first posted; and "Closed" when the Effectivity is completed.

**Occurrence/Repeat Occurrence/Recurrence:** See the Glossary – check the most applicable block.

**AFFECTED AREA:** Indicate the most affected Unit/Facility area (e.g., "North Hangar", "Motor Pool").

**EVENT SOURCE:** Check the event transpiring that occasioned the HAZLOG entry. If "Other," enter the name of the event within the parentheses.

**Individual/Agency Responsible:** Indicate the name of the Unit/Facility individual appointed as a POC for the HAZLOG item (by the Safety Council), and the name of the Agency or Individual responsible for effecting the corrective action (for example, "CPT Jack Northrop, Facility AMO/AMCOM").

**Reference/Authority:** Indicate the specific point of authority that the deficiency is cited against (for example, "AR 385-95, para. 1-6d", "29 CFR 1910.146c").

**Deficiency/OI:** Clearly indicate the condition prompting the HAZLOG entry.

**RAC:** Indicate the RAC, by referencing AR 385-10, FM 100-14, and FM 3-100.12.

**Corrective Action:** Indicate the action taken, or to be taken, to remedy the root cause of the Deficiency/Opportunity for Improvement (OI).

**Target Comp. Date:** Indicate the expected Effectivity of the Corrective Action.

**Date Completed:** Enter the date the HAZLOG entry was closed.

**System Defect Worksheet No.:** Enter the System Defect Worksheet No., if used (see Appendix E). The Worksheet number is comprised using the HAZLOG number, plus a letter suffix (for example, the first Worksheet used for the first FY02 HAZLOG number at the AASF For Utah would read "WYQJ99-02-001A". The second would be "-001B", and so forth).

**Abatement Cost:** Enter the expected cost for implementation of the Corrective Action (and any adjustments necessary upon HAZLOG item closure).

**Page No.:** Enter the sequential HAZLOG page number.

**Appendix E:**  
**System Defect Worksheet**

<b>PROGRAM:</b>	<b>DATE:</b>	<b>WORKSHEET No.:</b>
<b>PROGRAM MANAGER:</b>		<b>PROGRAM COORDINATOR:</b>
<b>ANALYSIS (Potential cost, injury, damage, mission, etc.):</b>		
<b>SYSTEM DEFECT:</b>		<b>RAC:</b>
<b>REFERENCE/AUTHORITY:</b>		
<b>INTERIM PROMEASURE/COUNTERMEASURE:</b>		
<b>LONG TERM/PERMANENT PROMEASURE/COUNTERMEASURE:</b>		
<b>IMPLEMENTATION (Who will do what by when):</b>		
<b>CONTROL MEASURES (Did the promeasure/countermeasure work?):</b>		

**Appendix F:**  
**Safety- and Safety-Related Program Control Matrix**

<b>SAFETY PROGRAM ELEMENT</b>	<b>UNIT/FACILITY SOP PAGE/ PARAGRAPH<sup>(1)</sup></b>	<b>ELEMENT MANAGER (Rank/Name)<sup>(2)</sup></b>	<b>ELEMENT COORDINATOR (Rank/Name)<sup>(3)</sup></b>
Aeromedical (Flight Surgeon)			
Aircraft Gunnery			
Aircraft Maintenance			
ALSE			
Armory			
Awards (Personnel Officer [S-1])			
Fire			
Flight Operations			
FOD			
HAZCOM			
HAZMAT/HAZWOPER			
Hearing Conservation			
Lifting Devices			
Logistics/S-4/Supply			
Medics			
Motor (including Driver Training)			
POL			
Public Affairs			
Publications			
Radiation/Radiological/Laser			
Respiratory Protection			
Small Arms			
Spills			
Standardization			
Technical Inspection			
(Other)			

**Notes:**

(1) Indicate the Unit/Facility SOP page or paragraph that describes how the respective Safety Program Element is administered. If the Program Element is administered through an MOA/MOU, or a State or higher headquarters publication, note that reference instead.

(2) See paragraph 2-5a of this Circular.

(3) See paragraph 2-5b of this Circular.

**Appendix G:**  
**Safety Program Control Calendar**

## SAFETY PROGRAM CONTROL CALENDAR

<b>FISCAL YEAR:</b>		<b>AASF For</b> <u>    </u> <b>ARNG</b>
---------------------	--	---

SEMIANNUALLY	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P
REVIEW WORK ORDER LOG												
REVIEW HAZARD INVENTORY LOG												
REVIEW ACCIDENT PREVENTION PROGRAM												
REVIEW SAFETY SOP(s)												
CONDUCT ACCIDENT PREVENTION SURVEY												
REVIEW PUBLICATIONS												
REVIEW HEARING CONSERVATION PROGRAM												
REVIEW HAZCOM PROGRAM												
CONDUCT SAFETY STANDOWN DAY												

QUARTERLY												
REVIEW FOD PROGRAM												
REVIEW SAFETY EDUCATION PROGRAM												
REVIEW SAFETY AWARDS PROGRAM												
CONDUCT COMMAND SAFETY COUNCIL												
REVIEW MAINTENANCE MANAGEMENT PROGRAM												
REVIEW ENLISTED SAFETY COUNCIL												
VISIT ALSE SHOP												
REHEARSE PRE-ACCIDENT PLAN												

MONTHLY												
CONDUCT AIRCREW SAFETY BRIEFING												
CONDUCT GROUND/SUPPORT SAFETY BRIEFING												
CONDUCT FOD INSPECTION												
CONDUCT FIRE PREVENTION SURVEY												
UPDATE SAFETY BULLETIN BOARDS												
REVIEW AVIATOR STATUS (AWARDS, ETC.)												
REVIEW PRE-ACCIDENT PLAN (CRASH ALARM NET)												

Use of this form is not compulsory.

Instructions for use: Indicate the Fiscal Year at the top of the form for which Safety Program is being monitored. Amend the form for particular needs, based upon events (for example, accident prevention surveys) and event frequencies (for example, semiannually). Indicate by checkmark the month in which a particular activity is performed. Retention schedule for this form IAW MARKS. This form should be prominently displayed as a visible management tool, and retained IAW MARKS.

**Appendix H: Unit/Facility SOP Subjects Matrix<sup>(1)</sup>**

<b>MANDATORY SOP SUBJECT</b>	<b>Recommended Areas of Topical Emphasis</b>	<b>UNIT/FACILITY SOP PAGE/ PARAGRAPH<sup>(2)</sup></b>
Terrain Flight Hazard Avoidance	Hazard Map Update Program, Wire Strike Avoidance, Bird Strike Avoidance.	
Instrument Flight and Inadvertent Instrument Meteorological Conditions (IMC) procedures.	IMC Recovery Plan.	
Passenger- and troop-carrying operations.	Briefings.	
External and internal cargo operations.	Load limits, HAZMAT.	
Gunnery operations.	Clearing of weapons procedures.	
Night operations.	Weather minima.	
Use and maintenance of NVDs.	Inspection requirements.	
Operations in a tactical environment.	Dust and snow.	
Parachute operations.	Hung jumper procedures.	
Infiltration/exfiltration techniques (e.g., rappelling, FRIES, SPIES).	Hung rappeller procedures.	
Multi-aircraft operations.	FARP procedures, transponder settings, lighting, formations.	
Forward area refueling and rearming.	Night operations, inspection checklist.	
Aviation Life Support Systems (ALSS).	Explosive safety, Cartridge-Actuated Devices (CADs), Propellant-Actuated Devices (PADs).	
Aircraft Survivability Equipment (ASE) use and maintenance.	Threat limitations.	
Foreign Object Damage prevention. <sup>(3)</sup>	Program manager, accident/incident reporting, program responsibilities.	
Responsibilities of aircrews when involved in an accident.	Pre-accident plan (including media relations), Operational Security (OPSEC), blood/urinalysis, accident reporting, overdue aircraft procedures, NOK notifications, AIB appointment orders.	
Aircraft maintenance procedures.	Tool accountability, disposal of accident wreckage/residue.	
Maintenance shop operations.	PPE; Lockout/Tagout.	
HAZMAT Handling.	Storage, shipping, HAZWOPER, Spill Plan, disposal of accident wreckage/residue, driver training program.	
HAZCOM program.	New employee/soldier training requirements.	
Aviation mission risk-management process.	Commander and Operations Officer program.	
Command-and-Control (C <sup>2</sup> ) procedures with the ground commander.	Signal Operating Instructions, Fratricide Prevention.	
Fatigue/rest-management procedures.	Application of risk management program.	
Extreme environmental operations (e.g., blowing snow, desert, over-water).	Seasonal topics for safety training.	
Protection of equipment from severe weather and environmental hazards.	Evacuation plans, hangaring and parking plans.	
Contractor flight operations.	Safety program.	
Special/unique operations not covered by existing/written procedures (e.g., external refuel systems).	Training programs, currency in operations.	
Safety program management.	Leadership training, Safety council, safety awards, fire prevention and protection, motor vehicle accident prevention, hearing conservation, respiratory protection, radiological protection, protective clothing and equipment, environmental protection, hazard tracking, MARKS files, awards program; driver education and training <sup>(4)</sup> .	

**Notes:** (1) Reference AR 385-95, para. 3-3.

(2) Indicate the Unit/Facility SOP page or paragraph that describes how the respective subject is administered. If the Program Element is administered through an MOA/MOU, or a State or higher headquarters publication, note that reference instead.

(3) See paragraph 5-4 of this Circular.

(4) See paragraph 2-7b of this Circular. This function may be performed by an agency other than the Unit/Facility. If so, indicate the MOA/MOU, or higher headquarters publication, page/paragraph number that administers this function.

**Appendix I:  
Sample Facility/Unit MOA/MOU**

**UTAH ARMY NATIONAL GUARD  
1<sup>st</sup> Battalion (Attack Helicopter) 211<sup>th</sup> Aviation Regiment  
7602 South Airport Road  
West Jordan, Utah 84084-7812**

**MEMORANDUM OF AGREEMENT  
BETWEEN  
1-211 BN (UT ARNG) AND THE AASF FOR UTAH**

SUBJECT: Memorandum of Agreement.

1. This memorandum shall serve to delineate and define those services that are provided by the Army Aviation Support Facility (AASF) For Utah for the 1<sup>st</sup> Battalion (Attack Helicopter) 211<sup>th</sup> Aviation Regiment (1-211), while said unit is in garrison in West Jordan, Utah.
2. No term of this MOA shall supersede any corresponding and applicable clause of a negotiated Collective Bargaining Unit or Union contract undertaken by either signatore. In conditions of conflict between this MOA and such negotiated agreements, the negotiated agreement shall preside.
3. 1-211 shall operate under its Administrative SOP, TACSOP and Training SOP, which in fact, mandate the employment of several safety and operational-related services as provided by the AASF – until such time as 1-211 is detached and deployed under formal order.
4. Administrative services regarding the provision of building office, hangar and storage space shall be provided by the AASF for use by 1-211 (in addition to those used by the 1-211 at the E.J. Garn Aviation Complex, in West Jordan, UT). Such facilities shall meet all applicable requirements under 10, 14, 29, 40 and 49 CFR, NFPA 101, National Electrical Code, Uniform Fire Code and Uniform Building Code. The AASF shall bear sole fiscal responsibility for the maintenance of such facilities (other than common housekeeping and FOD administration tasks). Security services and overall security of such facilities shall likewise remain the responsibility of the AASF. Unique security measures, based upon THREATCON and other risks, shall be adjusted/mitigated by the AASF Commander or their designee, and coordination made with the 1-211 Commander or their designee regarding control of security and access to AASF facilities. While the AASF normally requires badged access, any amendments to this requirement, and the duration of these amendments, shall be at the discretion of the AASF Commander or their designee (and as coordinated with the 1-211 Commander or their designee), provided such amendments fall within the requirements of applicable regulations and policies. Rostered (and issued key) access shall be granted and afforded to 1-211 personnel, upon request (and genuine need) of the 1-211 Commander or their designee.
5. Operational services, such as filing of flight plans during AASF duty hours, hazard analysis of the Local Flying Area, NOTAM administration, Weather and Flight Service Station interface, pay administration beyond the organic capabilities of 1-211, Publications Management assistance (e.g., Sectional maps), shall be administered by the AASF on behalf of 1-211. Such services shall also include management of Flight Crew Training Records and pay enablements (e.g.,

Additional Flight Training Period [AFTP] pay submissions for those activities not specifically performed by 1-211).

6. Training management assistance shall be rendered by the AASF for 1-211 personnel to the degree necessary, at the mutual discretion of the AASF Supervisory Instructor Pilot and the 1-211 Commander or their designee. Such training shall be administered in accordance with the 1-211 SOPs and the Aviation SOP for the State of Utah. Standardization Committee services shall be provided by the AASF for 1-211, while said is in garrison, as an augmentation to those Standardization Committee activities performed exclusive to the 1-211 or 211<sup>th</sup> Aviation Regiment (administrative higher headquarters for the 1-211). Members of 1-211 shall be appointed, in writing, to the AASF Standardization Committee. Agendas for each Standardization meeting shall be provided to 1-211 personnel in a timely fashion so they may adequately prepare for, and actively participate in, such meetings. Likewise, timely minutes shall be provided by the AASF for meetings conducted. Such meetings shall be conducted in accordance with applicable regulations.

7. Aviation Life Support services shall be wholly administered by the AASF for 1-211 while 1-211 is in garrison. The 1-211 Commander (or their designee) and ALSO shall maintain cognizance of such services, as objectively demonstrated by monthly signatures/comments in the AASF ALSE guest log book (as required by the AASF SOP and 1-211 SOP Safety and/or ALSE Annex[es]). These services shall include storage of ALSE, maintenance of same, records compilation and maintenance of provided services, and manifesting of materiel issued to and reserved for 1-211. Such ALSE/materiel shall be made available with reasonable notice should 1-211 (or a portion thereof) be activated/deployed/separated from the AASF.

8. All petroleum services shall be provided by the AASF for 1-211, in addition to those organic services provided by the 1-211 for itself. Accounts for fiscal adjudication shall be administered in accordance with applicable UTNG regulations. These services shall specifically include, but are not limited to: Stocking of packaged POL products, and issuance of same; administration of such products to ensure only authorized and non-expired products are issued for use; jet fuel refueling services; defueling services; hazardous material disposal and storage services; training necessary for Contract and organic personnel to fuel and service 1-211 aircraft (as required by or limited to contractual obligations).

9. Safety administration services for 1-211 shall be provided in accordance with the AASF and 1-211 Safety SOPs/Annexes.

a. Safety Councils shall be administered by the AASF (in addition to those performed by 1-211), and attended by 1-211. 1-211 personnel shall be rostered as members of the AASF Safety council, and such activities shall be considered satisfactory in terms of conduct of the 1-211 Safety Council (requirements). Agendas shall be furnished to 1-211 personnel in a timely fashion, so 1-211 personnel may adequately prepare, and actively participate in such meetings. Timely Minutes shall likewise be provided.

b. FOD administration shall be jointly conducted by the AASF and 1-211 for all 1-211-occupied flight-related facilities (in addition to those activities performed by the 1-211). Surveys conducted to detect and abate FOD shall be performed by AASF personnel, with copies provided to 1-211. 1-211 personnel shall be responsible for correcting FOD-related deficiencies for areas uniquely occupied by same.

c. Crash rescue services shall be solely provided by the AASF.

d. As mentioned above, Hazardous materiel collection, retention, storage, manifesting and disposal for 1-211 shall be wholly performed by the AASF. Records of such manifesting and disposal shall be made available to 1-211 personnel upon request.



e. HAZCOM and all like-training, which may fall under the auspices of a safety program, shall be scheduled, conducted and recorded by the AASF (in addition to that performed by 1-211). 1-211 personnel shall be expected to attend such training, and may, at the mutual discretion of the AASF Commander and 1-211 Commander (or their designee), include tasking of certain 1-211 personnel to conduct occasional classes for the mutual benefit of the AASF and 1-211. Records of all such training shall be copied for retention by both the AASF and 1-211 – to include an outline of each training course and a roster of attendees. Makeup of such training shall be administered (for 1-211 personnel) in accordance with the 1-211 Safety and/or Training SOP Annex(es).

f. 1-211 personnel shall be expected to participate in Safety Standown Activities, as administered by the AASF, to the greatest extent possible. Only urgent missions and prior-scheduled excuses shall be considered satisfactory excuse from participation in such activities (in addition to those situations mutually agreeable to the AASF and 1-211 Commanders).

g. Safety Awards shall be administered by the AASF for 1-211 (in addition to those administered by 1-211), while said is in garrison. 1-211 is expected to provide the AASF with necessary statistics, due diligence, etc., so as to facilitate the processing and submission of such awards. In addition, 1-211 is expected to mutually recognize AASF personnel and functions for Safety awards, when such is warranted.

h. HAZLOGs shall be the mutual responsibility of the AASF and 1-211 (in addition to those administered by 1-211). Each shall share with the other such (and all like-) information, with an eye toward reduction of duplicity in efforts. It is expected that at the conclusion of each Semiannual Survey of the AASF or 1-211, that HAZLOGs shall be generated for deficiencies discovered – in addition to those situations requiring such documentation (throughout the year).

i. Reports and investigations shall remain the mutual responsibility of the AASF and 1-211. The AASF, while 1-211 is in garrison, is responsible for submission of all safety messages and reports to higher headquarters (to include USASC). 1-211 shall ensure that AAARs, etc., are forwarded for 1-211 events to its cognizant higher headquarters. 1-211 shall make every effort to record, cost and report (to USASC) its own AAARs, with an info copy to the AASF. If the AAAR event occurs too close to the COB of a drill, etc., the 1-211 shall record the event, retaining a suspense copy, and forward the original to the AASF for costing and reporting completion. Once each quarter, 1-211 and AASF Safety personnel shall collaborate to ensure reports forwarded from, and messages sent to, each activity, shall be/have been exchanged. At the risk of duplicity, 1-211 and AASF shall automatically forward a duplicate copy of all SOF, ALSE, SOU, MIM, and like-messages to each other, so as to preclude a void of critical information.

j. Unless other arrangements are made, the AASF shall assume the role of higher headquarters for every other Semiannual Survey performed on/required by 1-211. This survey shall be conducted during the second Semiannual (fiscal) period, unless other arrangements have been made (as mutually agreed upon by the AASF and 1-211 Commanders). Copies of *all* Safety surveys conducted at the AASF or 1-211 shall be exchanged by and between the AASF and 1-211.

k. Maintenance records shall be maintained and administered for 1-211 by the AASF (in addition to those uniquely maintained by 1-211). 1-211 (including Contractor) personnel shall meet on a periodic basis with AASF personnel to negotiate improvements to forms flow between agencies/activities. 1-211 personnel shall correct maintenance records identified by the AASF as requiring correction to meet the requirements of DA Pam 738-751 and all like-publications. Such corrections shall be performed in a timely manner, on a schedule mutually agreeable to the AASF and 1-211.

l. Driver training services shall be provided through the AASF for all such requirements of 1-211 personnel for ground handling and refueling or servicing equipment (in addition to those

provided by 1-211). Such services are likely to be provided by a UTNG OMS/CSMS, and the AASF shall maintain cognizance of those operators authorized to operate such equipment while performing services on behalf of 1-211.

m. Fire Surveillance services shall be solely administered by the AASF (other than those performed at the E.J. Garn Aviation Complex). 1-211 shall appoint a Fire Marshall (for 1-211) to assist the AASF in the conduct of those activities delineated in AR 420-90. Records of such activities shall be generated by the AASF (in addition to those generated by 1-211), and copy provided for 1-211.

10. All activities described herein shall be conducted in accordance with applicable and governing regulations – to include the AASF and 1-211 SOP(s). Where a conflict between published guidance exists, a mutually agreeable resolution shall be negotiated between the AASF and 1-211 Commanders, and each SOP amended so as to preclude a recurrence of such conflict. Where such resolution cannot be negotiated, the State Army Aviation Officer (SAAO) for Utah will be considered the final authority. In such cases, the SAAO shall determine which, if any, SOPs require amendment.

11. This memorandum of agreement, effective upon the latest date entered below, supersedes previous editions of such, and shall inure to the successors and assigns of each signatory, until amended or rescinded by subsequent formal correspondence, generated as a result of mutual agreement between each cognizant agent thereto.

\_\_\_\_\_  
MICHAEL P. JENSEN  
COL, AV, UT ARNG  
Commander, AASF for Utah

\_\_\_\_\_  
LAWRENCE R. BURBANK  
LTC, AV, UT ARNG  
Commander, 1-211

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

Dist.: A

**Editorial Note:** MOAs/MOUs should be reviewed by the cognizant JAG prior to being submitted for end-party signature.

**Appendix J:  
Sample Medical Services MOA/MOU**

**STATE OF UTAH  
Utah National Guard  
12953 South Minuteman Drive  
Post Office Box 1776  
Draper, Utah 84020-1776**

**MEMORANDUM OF AGREEMENT  
BETWEEN  
THE UTAH NATIONAL GUARD AND OUR LADY OF MERCY HOSPITAL**

SUBJECT: Memorandum of Agreement.

1. This memorandum shall serve to delineate and define those services that are provided by Our Lady of Mercy Hospital, 5738 South Redwood Road, Salt Lake City, UT 84123-5395; for elements of the Utah National Guard (hereafter referred to herein as "UTNG"), under those circumstances outlined herein.

2. Our Lady of Mercy Hospital (hereafter referred to herein as "OLM") will draw blood and urine samples from those members of the Utah National Guard involved in certain accidents, as defined in Utah National Guard Regulation (UTNGR) 385-95, UTNGR 385-10, and UTNG Policy Directive (UTNGPD) 91-2. OLM shall serve as the primary draw and collection agency for those UTNG accidents occurring in Northern Utah.

3. The State Army Aviation Officer, UTNG, shall ensure the OLM Emergency Medicine Services Director is provided a current copy (and each subsequent change to) UTNGR 385-10, UTNGR 385-95, UTNGPD 91-2, the applicable UTNG Pre-Accident Plan(s), and any other publications/documents warranted to effectively administer the functions of this Agreement.

4. The UTNG Unit or Facility Operations Officer (or their designated representative) experiencing an accident shall refer to UTNGR 385-10 (for Army Ground accidents), UTNGR 385-95 (for Army Aviation accidents), or UTNGPD 91-2 (for Air Force accidents) to determine whether a blood and urine draw is necessary. Those personnel requiring blood and urine draw will then be conveyed by Government transportation to OLM, and report directly to the OLM Emergency Medicine Services Director (or their appointed representative).

5. OLM shall draw and collect blood and urine samples from each UTNG employee/servicemember (directed under this Agreement) using best medical and industry practices; ensuring sound chain-of-custody of each specimen drawn. OLM shall access the Armed Forces Institute of Pathology (AFIP) website (<http://www.afip.org/oafme/tox/tox.html>) for, and comply with, specific instructions on the quantities to be drawn, documentation required, and method of packaging and conveyance.

6. OLM shall also perform those other emergency medical services required in treating the range of required post-accident. Once the injuries are no longer threatening to life, limb, or eyesight, subsequent treatment shall be performed with the approval and cognizance of the UTNG State Surgeon (or their designated representative) or the Unit/Facility Flight Surgeon experiencing the accident. The phone numbers of the UTNG State Surgeon, and those of the Unit and Facility Flight Surgeon(s) are tabbed in the applicable (provided) Pre-Accident Plan(s). Notification of

next of kin (NOK) to secure permission for required emergency medical services shall follow the protocol of OLM, and the notification of NOK procedures defined in the applicable UTNG Pre-Accident Plan.

7. Remuneration for services rendered by OLM shall be at Fair Market Schedules, applying any Government Schedules or Rates for billing purposes. Invoice(s) for services shall be directed to: Office of the Adjutant General (Attention: State Safety Manager), 12953 South Minuteman Drive, P.O. Box 1776, Draper, Utah 84020-1776. The UTNG State Safety Manager shall ensure immediate forwarding of the invoice to the (cognizant Air Force or Army) UTNG Comptroller, who will ensure timely payment of the invoice in accordance with applicable UTNG and certain other regulations. Internal invoice processing shall be in accordance with applicable UTNG regulations.

8. Periodic rehearsal of the applicable UTNG Pre-Accident Plan(s) shall include OLM to the degree and frequency necessary to ensure soundness and accuracy of the Plan(s), IAW UTNGR 385-10, UTNGR 385-95, UTNGPD 91-2, and other applicable regulations.

9. This Agreement, effective upon the latest date entered below, shall be administered in accordance with applicable Utah laws, and UTNG regulations. This Agreement supersedes previous editions of such, and shall inure to the successors and assigns of each signatory, until amended or rescinded by subsequent formal correspondence, generated as a result of mutual agreement between each cognizant agent thereto.

\_\_\_\_\_  
ALFRED J. CARGEN  
Major General, Utah NG  
The Adjutant General

\_\_\_\_\_  
MOSES D. CHRISTIAN, M.D., F.R.C.S. (C)  
Emergency Medical Services Director  
Our Lady of Mercy Hospital

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

Dist.: A

**Editorial Note:** MOAs/MOUs should be reviewed by the cognizant JAG prior to being submitted for end-party signature.

**Appendix K:**  
**Safety Perceptions Survey form**

<b>Unit/Facility:</b>		<b>UIC:</b>		<b>Date:</b>	
<b>SAFETY PERCEPTIONS SURVEY</b>					
<b>INSTRUCTIONS:</b> You have been selected to express your views on Safety. <b>DO NOT SIGN THIS FORM</b> , but please indicate your rank/grade (by category) (and individual military organization [e.g., Detachment/Company/Troop or Facility], above, as applicable). This 32-question survey asks for your opinions; there are no <i>right</i> or <i>wrong</i> answers. Indicate your level of agreement with each of the following statements on a scale of 1 through 5, "1" indicating you <b>STRONGLY DISAGREE</b> statement, and "5" indicating you <b>STRONGLY AGREE</b> with the statement. Leave the space blank if you don't know. Complete all portions of the form, and forward immediately to the Unit/Facility Aviation Safety Officer.					
<b>QUESTION</b>					<b>RESPONSE</b> (Circle or Check Only a Single Box)
1. I believe the Unit/Facility Safety program is effective in eliminating accidents.	1	2	3	4	5
2. The safety training provided through the Unit/Facility helps me do my job safely.	1	2	3	4	5
3. My supervisor encourages safe job procedures.	1	2	3	4	5
4. Safety inspections on tools and equipment are made at regular, frequent intervals.	1	2	3	4	5
5. The Unit/Facility communicates the importance of safety.	1	2	3	4	5
6. The Safety Award Program is effective in recognizing individual safety performance.	1	2	3	4	5
7. Members of this Unit/Facility are well-trained in emergency procedures and practices.	1	2	3	4	5
8. When an accident occurs, it is thoroughly investigated.	1	2	3	4	5
9. Experienced individuals regularly train new members in safety and health practices.	1	2	3	4	5
10. Safety does not take a back seat to OPTEMPO.	1	2	3	4	5
11. Safety Standard Practices are reviewed regularly with Unit/Facility members.	1	2	3	4	5
12. Job performance standards are the same for productivity and safety.	1	2	3	4	5
13. My supervisor understands the safety considerations in/of my job.	1	2	3	4	5
14. Safety training is included in every new member's orientation.	1	2	3	4	5
15. My supervisor takes action on safety suggestions.	1	2	3	4	5
16. Emergency response drills are conducted periodically.	1	2	3	4	5
17. The Unit/Facility is consistent in its priorities and directives regarding safety.	1	2	3	4	5
18. My supervisor ensures safety is considered in all that is done.	1	2	3	4	5
19. My work environment is maintained in a safe condition.	1	2	3	4	5
20. Supervisors regularly participate in safety program activities.	1	2	3	4	5
21. Safety hazards that have been identified are corrected.	1	2	3	4	5
22. My supervisor discusses safety goals and objectives with me periodically.	1	2	3	4	5
23. My supervisor is concerned about his/her safety record.	1	2	3	4	5
24. Individuals are given enough time to do their work safely under all conditions.	1	2	3	4	5
25. I feel that my safety performance for the year is measured and accurately reflected during the OER/NCOER/Performance Appraisal process.	1	2	3	4	5
26. Safety Officers/NCOs are readily available to provide assistance and advice.	1	2	3	4	5
27. Individuals report safety problems to their supervisors.	1	2	3	4	5
28. My supervisor investigates all accidents that occur in my squad/section/team.	1	2	3	4	5
29. My fellow Unit/Facility members take personal responsibility for their safety.	1	2	3	4	5
30. Individuals use proper personal protective equipment, as needed, to do their jobs safely.	1	2	3	4	5
31. The Unit/Facility annually sets safety goals for which all are held accountable.	1	2	3	4	5
32. Individuals take part in the development of safety requirements for their jobs.	1	2	3	4	5
<b>RANK/GRADE</b> (Check One)	Contractor	E1 to SP4 (or Tech. eq.)	CPL to CSM (or Tech. eq.)	WO1 to CW5 (or Tech. eq.)	2LT to GEN (or Tech. eq.)

**Appendix L:  
Crash Site Pass and Access Roster**

**THIS PASS ENTITLES THE BEARER UNLIMITED**

**UNACCOMPANIED  
CRASH SITE PASS**

**No. 19**

**ACCESS TO THE ACCIDENT SCENE INVOLVED.  
TERMS OF USE IAW (State/Territory) ARNG AVN SAFETY SOP  
AND DA Pam 385-40.**

(Obverse)

**RETURN POSTAGE GUARANTEED.  
IF FOUND (FOR OTHER THAN ISSUED TERMS),  
DROP INTO ANY MAILBOX.**

**POSTMASTER:  
RETURN POSTAGE DUE TO:  
COMMANDER, Unit/Facility, \_\_ ARNG  
ATTENTION: AVIATION SAFETY OFFICER  
ADDRESS  
CITY, State/Territory Zipcode USA**

(Reverse)

**INSTRUCTIONS:** Enter Unit/Facility information in the required Pass spaces. Modify the file for three sets of passes (i.e., "Accompanied", "Unaccompanied", and "Crash Site Security") and print at least 20 passes of each category (escalating the Pass No. prior to each printing - for 60 total passes). Bond a Pass Obverse to a Reverse, and laminate in card-size lamination stock. Complete by affixing a clasp for attachment to a uniform/shirt. Enter Unit/Facility information in the required Roster spaces, and print at least five Rosters. Units/Facilities may utilize their own artwork for passes, provided all provisions of the required information in this Circular are satisfied. Post the completed Passes and Rosters in the Unit/Facility Crash Investigation Kit IAW paragraph 3-7c of this Circular.

**STATE/TERRITORY ARMY NATIONAL GUARD**  
**UNIT/FACILITY**  
**ADDRESS**  
**CITY, State Zipcode**

## CRASH SITE PASS ACCESS ROSTER

(Circle One)	Accompanied	Unaccompanied	Crash Site Security
--------------	-------------	---------------	---------------------

[illegible]

\*SSAN information listed herein is **FOR OFFICIAL USE ONLY** IAW AR 340-21 and AR 385-40.

Disclosure of such information shall not be made without the specific approval of the AIB President and/or Commander. This roster to be maintained by the ASO, Unit/Facility, \_\_\_\_ ARNG.

**Appendix M:  
Sample Stored Radiological Material/Fire Chief Memorandum/Letter**

**UTAH ARMY NATIONAL GUARD  
1<sup>st</sup> Battalion (Attack Helicopter) 211<sup>th</sup> Aviation Regiment  
7602 South Airport Road  
West Jordan, UT 84084-7812**

Mr. Donald E. Beatty  
Chief, West Jordan Fire Department  
8000 South Redwood Road  
West Jordan, UT 84088

Dear Chief Beatty:

1 October 2001

In accordance with National Guard Regulation 385-11, and (U.S. Army) Technical Bulletin 385-4, this battalion is obliged to communicate – to agencies such as yours – the location and types of radioactive materiel, as well as explosives or pyrotechnics, stored within the armory. The attached memorandum and location map denotes such. In the unlikely event your agency would be dispatched for an incident involving either the noted radiological, explosive or pyrotechnic materiel, or an incident in proximity to such material, I trust this information would prove worthwhile to have immediately available.

Additionally, I would like to extend a standing invitation to you and your department to visit us, and share information relative to crash-rescue, fire prevention, and general occupational safety and health issues. I may be reached at 816-3468 or by pager at 267-4570, to schedule such visits.

If I may be of any service in clarifying the attached information, please do not hesitate to call upon me.

Sincerely,

CW5 Frank A. Rotella  
Battalion Safety Officer

Attachments: 2

- (U) Inventory Memorandum
- (U) Location Map

cc: LTC R. Wehrenberg (State Safety Manager)  
LTC J. Radke (State Intel)  
LTC R. Scrugham (State RCO)  
LTC T. Davis (State OHN)  
MAJ W. Odell (AASF ASO)  
MAJ D. Stoops (State Industrial Hygienist)  
CPT G. Krueger (BN S-4)  
CW4 E. Norbom (BN NBC Officer)



**Appendix N:**  
**Foreign Object Damage/Debris (FOD) Control Safety Survey**

<b>FOREIGN OBJECT DAMAGE/DEBRIS (FOD) CONTROL SAFETY SURVEY</b>	
<b>Unit/Facility:</b>	<b>UIC:</b>

**Instructions for Completion:** Each Drill period (or once each month, upon activation, and for TDA organizations), each Unit/Facility FOD Officer/NCO is to conduct a FOD Control Safety Survey, using this form (or a likeness thereof), in accordance with NG CIR 385-95 and the Unit/Facility SOP. Upon completion of the survey, *retain the original* form in the respective Unit/Facility FOD MARKS file, and *forward a copy* to the ASO/ASNCO and each affected Unit/Facility NLT COB each drill/month. Comments regarding hazardous conditions are to be entered on the Unit/Facility HAZLOG for tracking and remedy assignment.

QUESTION	YES	NO
1. Are Maintenance personnel on flight line practicing FOD control procedures as required by SOP?		
2. Are all aircraft covers, inlet, pitot, exhaust covers installed on aircraft?		
3. Is maintenance being performed at this time (of survey)?		
4. Are tools accounted for after work is completed?		
5. Are aircraft cockpit and stowage areas free of FOD?		
6. Are inlet sections of engines used as resting places for tools, parts, etc., during maintenance?		
7. Are work areas clean, orderly, and free of debris?		
8. Are equipment and material not in use kept clear of maintenance areas?		
9. Do Maintenance personnel police their areas on a continuing basis?		
10. Are personal items (e.g., badges, pencils, pocket materials, pin-on rank insignia, dog tags, jewelry) of those working on aircraft secured?		
11. Are FOD containers with "Stay Shut" lids handily located about the hangar area?		
12. Is equipment available to keep hangar and ramp areas clean?		
13. Do bulletin boards contain FOD information?		
14. Are personnel periodically briefed on FOD and prevention techniques (review safety/maintenance meeting reports)?		
15. Is the tool issue roster turn in procedure in compliance with Maintenance SOP?		
16. Are ramp and taxiways FOD-free (e.g., loose asphalt, pebbles, and stones)?		
17. Are perimeter areas around ramp and hangar areas clean of debris?		
18. Was a FOD walk/police conducted during this (drill) period/month?		
19. Do any comments (below) warrant entry on a Hazard Inventory Log (HAZLOG) for tracking and remedy by the ASO/ASNCO?		
Comments:		

<b>FOD PREVENTION STATUS (Circle One)</b>			
EXCELLENT	GOOD	ACCEPTABLE	POOR
Printed Rank/Name			
Signature and Date			

**Appendix O:**  
**Tactical Refueling Site Inspection Checklist**

**UNIT IDENTIFICATION (Name/UIC):**

***TACTICAL REFUELING SITE INSPECTION CHECKLIST***

FARP Name	Date	6-Digit Grid of FARP

POL Representative Setting-Up FARP	Inspector Approving FARP
Print Rank/Name	Print Rank/Name
Signature	Signature

All FOUR panels of this checklist shall be completed prior to commencement of refueling operations.  
 THIS FORM SHOULD BE USED IN LIEU OF THOSE FOUND IN FORSCOM REGULATION (FCR) 385-1 (Forces Command Safety Program), AND FM 1-111 (Aviation Brigades) (of which, this is a tailored version).

*This checklist will be used as a guide in conjunction with FMs 10-67-1, 1-111 and FCR 385-1. The designated "Inspector" will be accompanied by the POL Representative Setting-up the FARP throughout the inspection. As indicated by the YES/NO check block, appropriate initials by **both** parties are required prior to any refueling operation.*

**LEGEND:** 1 = Mandatory answer in this block prior to refueling, or the absence of which will require termination of refuel. 2 = Desirable, but not mandatory. 3 = Mandatory answer if applicable (for example, lighting for night operations).

1. SAFETY EQUIPMENT	POL – YES	POL – NO	INSP – YES	INSP – NO
a. Are fire extinguishers present, one at the pump assembly and one at each refueling nozzle?	1		1	
b. Do fire extinguishers meet the requirements (e.g., charged, proper type, safety-tied/wired)?	1		1	
c. Is sufficient water available to wash fuel spills from personnel or to wet fuel-soaked clothing before removing the clothing?	1		1	
d. Are POL Handlers wearing PPC/PPE?	1		1	
e. Do the grounding rods conform to required specifications for type and length?	1		1	
f. Are explosion-proof flashlights available for night operations?	3		3	
g. Are <b>NO SMOKING, DANGER, PASSENGER MARSHALLING AREA, RESTRICTED AREA, ALARM</b> and <b>EMERGENCY SHUTOFF</b> signs posted?	1		1	
h. Are ignition sources collected outside the dispensing area?	1		1	
i. Are grounding rods being used at pump-filter separator locations and at each dispensing point nozzle?	1		1	
j. Are all wheeled vehicles secured with	1		1	

parking brakes and wheel chocks?				
k. Has a berm been constructed around fuel bladders to contain fuel in case of rupture?	3		3	
l. Are refueling vehicles marked with appropriate fuel grade, and HAZMAT/DOT placards?	1		1	

2. NOZZLES AND HOSES	POL – YES	POL – NO	INSP – YES	INSP – NO
a. Does each nozzle have proper grounding/bonding cable and wire attached?	1		1	
b. Are both closed-circuit and open-port nozzles available for use?	1		1	
c. Are dust covers attached to the nozzle and are they used?	1		1	
d. Has the hose been tested at normal operating pressure with the nozzle closed?	1		1	
e. Is the dispensing hose long enough to allow the <i>minimum</i> required 100-foot (140/180-foot for CH-47) distance (mast-to-mast) between aircraft?	1		1	
f. Do hoses show signs of blistering, saturation, nicks or cuts?		1		1
g. Are hose nozzle screens clean?	1		1	
h. Are the hoses configured in a curved path (as practical, to allow for line surges without causing coupling or line failures); and allow full view of Aircraft Refuelers?	1		1	

3. AIRCRAFT CONTROL AND EQUIPMENT	POL – YES	POL – NO	INSP – YES	INSP – NO
a. Is the parking area for each fuel dispensing point clearly marked?	1		1	
b. Is a trained Air Traffic Controller or Pathfinder available at each refueling site (non-tactical environment)?	3		3	
c. Does the FARP have two-way radio communications with aircraft before and immediately after refueling (non-tactical environment)?	1		1	
d. Is the refueling site equipped with a lighting system for night operations?	3		3	

4. SITE PREPARATION	POL – YES	POL – NO		INSP – NO
a. Is the size of the site adequate for the operation?	1		1	
b. Has the area been cleared of loose sticks, stones, and other debris that might cause FOD?	1		1	
c. Does the layout ensure proper spacing between aircraft and refueling points (also see 2.e., above)?	1		1	
d. Are all pieces of equipment and materiel that can be camouflaged covered with appropriate camouflage?	2		2	

e. Are vehicles using one set or existing track marks to reduce the number of tracks?	2		2	
f. Has the FARP area and perimeter been secured?	1		1	
g. Are the vehicles emplaced to allow timely exit?	1		1	
h. Are proper and applicable FARP decoys set up?	2		2	
i. Are FARP assets dispersed appropriately?	1		1	
j. Does the setup of the FARP take advantage of local vegetation, terrain, and cover to provide concealment and protection?	1		1	
k. Does the setup of the FARP take advantage (if possible) of existing structures and buildings?	2		2	
l. Do aircraft approach, land and depart into the wind?	2		2	

5. PRE-REFUELING OPERATIONS	POL – YES		INSP – YES	INSP – NO
a. Are sufficient personnel assigned to the equipment – one person to operate the pump, one person to operate each nozzle, and one person to fireguard each nozzle (may be a dismounted Aircrewmember)?	1		1	
b. Has a fuel sample been taken from each filter separator and fuel source?	1		1	
c. Has pressure differential indicator/gauge been tested annually and date recorded on indicator/gauge or in logbook?	1		1	
d. Is filter/separator housing marked with date element was changed or put into use?	1		1	
e. Have pressure differential checks been conducted and recorded?	1		1	
f. Has the complete system been checked for proper operation, pressure, and leaks (to include purging fuel from each nozzle)?	1		1	
g. Has a periodic ohmmeter check of positive ground from attach(ment) points been performed?	2		2	

6. SITE OPERATION	POL – YES	POL – NO	INSP – YES	
a. Is there an established communication means (per SOP) to control traffic at refueling locations (consider "PAD Control" and "Silent FARPs") ?	1		1	
b. Have passengers (embarking aircraft for the first time, boarding from the FARP) been briefed about proper dismounting/mounting procedures; and do they go to the marshaling area while the aircraft is being refueled?	3		3	
c. Is blowing dust or snow a problem at the refuel site?		2		2
d. Are aircraft settling in loose earth during refueling, so as to pose a rollover, low rotor disc, or roll-away hazard?		1		1

e. Are Ground Guides provided for aircraft?	1		1	
f. Do Ground Guides use proper marshaling signals?	1		1	
g. Do non-essential personnel deplane before refueling?	3		3	
h. Is the fire extinguisher carried from its position by the grounding rod to a point where Refuel personnel, Aircrew (at the controls), and Pump Operator (manning the "deadman" switch) are all in line-of-site?	1		1	
i. Do Refueling personnel ensure all radios are turned off except the radio used to monitor air traffic?	2		2	
j. Do Refueling personnel ensure all armament aboard the aircraft has been set on SAFE or OFF?	1		1	
k. Are aircraft properly grounded before they are refueled?	1		1	
l. Is the nozzle bonded to the aircraft before the refueling cap is opened?	1		1	
m. Are aircraft anti-collision and position lights turned off prior to refueling of each aircraft?	1		1	
n. Is the dust cap replaced on the nozzle after each refueling?	1		1	
o. Are nozzles replaced on the nozzle hanger (grounding rod) or in drip pan after use?	1		1	
p. Is the nozzle grounding cable clamped/attached to the grounding rod when not in use?	1		1	
q. Are grounding wires/cables tagged with a red "Remove Before Flight" warning flag/streamer at the point of contact with the aircraft?	1		1	
r. If tank vehicles are used as the fuel source for rapid refueling, is the refueling being properly conducted?	3		3	
s. Are refueling personnel familiar with emergency fire and rescue procedures?	1		1	
t. Are refueling personnel familiar with procedures in case of a fuel spill?	1		1	
u. Is a copy of the Unit's refueling SOP available and are POL personnel familiar with its contents?	1		1	
v. Are appropriate measures in place to facilitate reconstitution and recovery of FARP assets in the event of damage?	1		1	

## INSTRUCTIONS:

- Each time the FARP is "broken down" and relocated, a new checklist must be completed.
- Upon return from the field environment, the POL OIC/NCOIC shall ensure its immediate forwarding to the Unit/Facility ASO for retention.

**The last FARP established prior to reployment may have been checked using a laminated version of this checklist and grease pencil. For this FARP, a photocopied facsimile of the completed checklist will suffice - it is not necessary to create a whole new checklist just for submission/retention to and by the Unit/Facility Safety office. Under such circumstances, original copies of all previous FARPs during the drill/FTX/deployment must (also) still be completed, maintained and submitted.**

**GLOSSARY****Section I****Abbreviations (including Acronyms and Initialisms).****1SG**

First Sergeant

**AAAR**

Abbreviated Aviation Accident Report

**AAFA**

Army Aviation Flight Activity

**AAPP**

Aviation Accident Prevention Plan

**AAPS**

Aviation Accident Prevention Survey

**AAR**

After Action Report

**AASF**

Army Aviation Support Facility

**AATS**

Army National Guard Aviation Training Site

**ABSO**

(U.S. Army) Aviation Branch Safety Office

**AC**

Advisory Circular

**ACOD**

Actual Cost of Damage

**ACT**

Aircrew Coordination Training

**ADT**

Active Duty Training

**AFI**

Air Force Instruction

**AFIP**

Armed Forces Institute of Pathology

**AFMAN**

Air Force Manual

**AFPAM**

Air Force Pamphlet

**AFTP**

Additional Flight Training Period

**AG**

Adjutant General

**AGAR**

Abbreviated Ground Accident Report

**AGR**

Active Guard/Reserve

**AIB**

Accident Investigation Board

**AIM**

Aeronautical Information Manual

**AIRF**

Aircrew Information Reading File

**ALSE**

Aviation Life Support Equipment

**ALSET**

Aviation Life Support Equipment Technician

**ALSO**

Aviation Life Support (Equipment) Officer

**ALSS**

Aviation Life Support System

**AMC**

Air Mission Commander

**AMCOM**

U.S. Army Aviation and Missile Command

**AMO**

Aviation Maintenance Officer

**AMV**

Army Motor Vehicle

**ANSI**

American National Standards Institute

**AO**

Area of Operation

**AOAP**

Army Oil Analysis Program

**APA**

Aviation Physician's Assistant

**APFT**

Army Physical Fitness Test

**APIC**

Army Performance Improvement Criteria

**AR**

Army Regulation

**ARMS**

Aviation Resource Management Survey

**ARNG**

Army National Guard

**ARTCC**

Air Route Traffic Control Center

**ASAAPS**

Aviation Support Activity Accident Prevention Survey

**ASC**

Aviation Safety Council

**ASE**

Aircraft Survivability Equipment

**ASI**

Additional Skill Identifier

**ASMA**

Aerospace Medicine Association

**ASNCO**

Aviation Safety Noncommissioned Officer

**ASO**

Aviation Safety Officer

**AT**

Annual training

**ATC**

Air Traffic Control

**ATM**

Aircrew Training Manual

**ATP**

Aircrew Training Program

**ATS**

Air Traffic Services

**AVCRAD**

Aviation Classification and Repair Activity Depot

**AVIM**

Aviation Intermediate Maintenance

**AVUM**

Aviation Unit Maintenance

**BASH**

Bird Aircraft Strike Hazard

**BLM**

(U.S. Forest Service) Bureau of Land Management

**C<sup>2</sup>**

Command and Control

**CAD**

Cartridge-Actuated Device

**CAPP**

Command Accident Prevention Plan

**CFR**

Code of Federal Regulations

**CINC**

Commander in Chief

**CIP**

Command Inspection Program

**CLRP**

Command Logistics Review Program

**CME**

Continuing Medical Education

**CNGB**

Chief National Guard Bureau

**CO**

Carbon Monoxide

**COA**

Course of Action

**COB**

Close of Business

**COMET**

Command Maintenance Evaluation Team

**CPC**

Corrosion Prevention Control

**CRM**

Crew Resource Management

**CSC**

Command Safety Council

**CSM**

Command Sergeant Major

**CTA**

Common Table of Allowances

**CTC**

Combat Training Center

**DA**

Department of the Army

**DA Pam**

Department of the Army Pamphlet

**DARR**

Department of the Army Regional Representative

**DFAS**

Defense Finance and Accounting Services

**DOAS**

Directorate of Aviation and Safety

**DoD**

Department of Defense

**DODI**

Department of Defense Instruction

**DOT**

Department of Transportation

**DSN**

Defense (or Digital) Switching Network

**ECOD**

Estimated Cost of Damage

**EHR**

Extremely High Risk

**EIR**

Equipment Improvement Recommendation

**EOC**

Emergency Operations Center

**ESC**

Enlisted Safety Council

**EXEVAL**

External Evaluation

**FAA**

Federal Aviation Administration

**FARE**

Forward Area Refueling Equipment

**FARP**

Forward Arming and Refueling Point

**FAX**

facsimile

**FCR**

FORSCOM Regulation

**FDA**

(U.S.) Food and Drug Administration

**FEB**

Flying Evaluation Board

**FM**

Field Manual

**FOD**

Foreign Object Debris (or Damage)

**FORSCOM**

(U.S. Army) Forces Command

**FSDO**

Flight Standards District Office

**FSS**

Flight Service Station

**FTX**

Field Training Exercise

**FY**

Fiscal Year



**GCM**

General Court Martial

**GPM**

Ground Precautionary Message

**GSA**

Government Services Administration

**GSE**

Ground Support Equipment

**HAZCOM**

Hazard Communications

**HAZLOG**

Hazard Log

**HAZMAT**

Hazardous Material

**HAZWOPER**

Hazardous Waste Operations

**HMIS**

Hazardous Material Information System

**HQDA**

Headquarters, Department of the Army

**IATF**

Individual Aircrew Training Folder

**IAW**

in accordance with

**IDT**

Inactive Duty Training

**IH**

Industrial Hygiene

**IMC**

Instrument Meteorological Conditions

**INSP**

Inspector

**IP**

Instructor Pilot

**JAG**

Judge Advocate General

**JCS**

Joint Chiefs of Staff

**JOAP**

Joint Oil Analysis Program

**LOI**

Letter of Instruction

**MACOM**

Major Army Command

**MARKS**

Modern Army Record Keeping System

**ME**

Medical Examiner

**METL**

Mission Essential Task List

**MIM**

Maintenance Information Message

**MOA**

Memorandum of Agreement

**MOS**

Military Occupational Specialty

**MOU**

Memorandum of Understanding

**MSDS**

Material Safety Data Sheet

**MTOE**

Modified Table of Organization and Equipment

**NAS**

National Airspace System or Naval Air Station

**NASA**

National Aeronautics and Space Administration

**NBC**

Nuclear, Biological, and Chemical

**NCO**

Noncommissioned Officer

**NCOER**

Noncommissioned Officer Evaluation Report

**NCOIC**

Noncommissioned Officer in Charge

**NCSC**

National Customer Service Center

**NDT**

Nondestructive Testing

**NFPA**

National Fire Protection Association

**NG**

National Guard

**NGB**

National Guard Bureau

**NG CIR**

National Guard Circular

**NG Pam**

National Guard Pamphlet

**NGR**

National Guard Regulation

**NLT**

No Later Than

**NOK**

Next of kin

**NOTAM**

Notice to Airmen

**NSN**

National Stock Number

**NTSB**

National Transportation Safety Board

**NVD**

Night Vision Device

**OAP**

Operational Aeromedical Problems

**ODT**

Overseas Deployment Training

**OER**

Officer Evaluation Report

**OH**

Occupational Health

**OHN**

Occupational Health Nurse

**OHR**

Operational Hazard Report

**OI**

Opportunity for Improvement

**OIC**

Officer in Charge

**OPCON**

Operational Control

**OPSEC**

Operational Security

**OPTEMPO**

Operations Tempo

**OSAA**

Operational Support Airlift Agency

**OSACOM**

Operational Support Airlift Command

**OSH**

Occupational Safety and Health

**OSHA**

Occupational Safety and Health Administration

**OTR**

over-the-road

**PA**

Physician's Assistant

**PAD**

Propellant-Actuated Device

**Pam**

Pamphlet

**PAO**

Public Affairs Officer

**para.**

paragraph

**PC**

Pilot-in-Command

**PI**

Pilot

**POC**

Point of Contact

**POI**

Program of Instruction

**POL**  
Petroleum, Oil and Lubricants

**POV**  
Privately Owned Vehicle

**PPC**  
Personal Protective Clothing

**PPE**  
Personal Protective Equipment

**PQDR**  
Product Quality Deficiency Report

**PRCS**  
Permit Required Confined Space

**psi**  
pounds per square inch

**QA**  
Quality Assurance

**QC**  
Quality Control

**QDR**  
Quality Deficiency Report

**QSL**  
Quality Status List

**RAC**  
Risk Assessment Code

**RAM**  
Resident in Aerospace Medicine

**RCAS**  
Reserve Component Automation System

**RCO**  
Radiological Control Officer

**RMIS**  
Risk Management Information System

**S-1**  
Personnel Officer

**S-2**  
Intelligence Officer

**S-3**  
Operations Officer

**S-4**  
Logistics Officer

**SAAO**  
State Army Aviation Officer

**SAD**  
State Active Duty

**SAMO**  
State Aviation Medicine Officer

**SAOSHI**  
Standard Army Occupational Safety and Health Inspection

**SASO**  
State Aviation Safety Officer

**SC**  
Supply Catalog

**Seq**  
sequence

**SF**  
Standard Form

**SOF**  
Safety of Flight

**SOH**  
Safety and Occupational Health

**SOP**  
Standing Operating Procedure

**SOUM**  
Safety of Use Message

**SP**  
Standardization Instructor Pilot

**SSAN**  
Social Security Account Number

**STARC**  
State Area Command

**TACSOP**  
Tactical Standing Operating Procedure

**TAG**  
The Adjutant General

**TAMMS-A**

The Army Maintenance Management System - Aviation

**TB**

Technical Bulletin

**TC**

Training Circular

**TDA**

Table of Distribution and Allowances

**Tech**

Technician

**TG**

Technical Guide

**THREATCON**

Threat Condition

**TM**

Technical Manual

**TOC**

Tactical Operations Center

**TRADOC**

U.S. Army Training and Doctrine Command

**UFC**

Unified Facilities Criteria

**UIC**

Unit Identification Code

**USAAC**

U.S. Army Aeromedical Center

**USAEHA**

United States Army Environmental Hygiene Agency

**USAFSC**

U.S. Air Force Safety Center

**USAIA**

United States Army Institute of Administration

**USASAM**

United States Army School of Aviation Medicine

**USASC**

United States Army Safety Center

**USFS**

U.S. Forest Service

**USGPO**

U.S. Government Printing Office

**USNSC**

U.S. Naval Safety Center

**UT**

Unit Trainer

**VFR**

Visual Flight Rules

**VMC**

Visual Meteorological Conditions

**YTC**

Yearly Training Calendar

**Section II****Terms****Abate**

To eliminate or reduce an OSH hazard by complying with OSH standards criteria or taking equivalent protective measures. (Reference AR 385-10)

**Annual Writ**

Short for Annual Written Examination, once part of the annual Aviator examination process involving a written examination, oral evaluation, and flight evaluation. The Annual Writ has since been consolidated into the oral and flight evaluations, and is no longer required. Referenced in text only for illustrative purposes.

**Army Aviation Support Facility (AASF)**

- a. An activity of the State staffed with military Technicians/AGR personnel that is responsible for ARNG aviation operations, including support of aviation training and maintenance of supported unit's aircraft. This maintenance support is accomplished through the use of an MTOE parent unit as augmented by selected teams and equipment that provide the necessary maintenance capability.
- b. Provides AVUM maintenance support for supported unit's aircraft and allied equipment. Within its capability and upon approval of the supporting AVCRAD, it may provide AVIM level repairs. (Reference NGR 95-1)

**Army National Guard Aviation Training Site (AATS)**

A centralized aviation training facility staffed and operated by ARNG military Technician/AGR personnel. It is designed to provide individual crewmember training on aircraft systems which the U.S. Army Training and Doctrine Command (TRADOC) does not offer or has insufficient quotas to meet ARNG requirements. (Reference NGR 95-1)

**Aviation Accident Prevention Plan (AAPP)**

Established procedures designed for Commanders who control aviation assets that will safeguard and preserve human life and United States property. (Reference AR 385-95)

**Aviation Classification and Repair Activity Depot (AVCRAD)**

A non-divisional maintenance activity staffed with ARNG military Technicians/AGR personnel that is established to provide designated depot, AVIM, and backup AVUM for ARNG aircraft and allied equipment on an area basis. It is also authorized to continue that maintenance support that was constituted under the four levels of maintenance concept (general support). The TDA parent organization, as augmented by selected equipment, will provide the maintenance capability required. (Reference NGR 95-1)

**Aviation Life Support Equipment (ALSE)**

Equipment designed to provide for the maximum functional capability of flying personnel appropriate for the mission, terrain, and climatic conditions along the planned route of flight. In the event of an accident, the equipment provides a means to enhance safe and reliable escape, survival, and recovery in combat and emergency situations. (Reference AR 385-95)

**Aviation Safety**

As a discipline, the embodiment of the art and science dedicated to mission execution with the highest return on investment, at the lowest acceptable risk. The *Five-Step Accident Prevention* Process is used to produce a Model Safety Program - one that objectifies and includes Mission Protection, Damage Control, Liability Limitation, Management Improvement, Injury Prevention, and OSHA Compliance.

**Aviation Safety Officer (ASO)**

An Army Officer, DA civilian or contractor with the skill qualification of safety and designated by the Commander for the purpose of managing the Commander's Aviation Accident Prevention Plan. This Officer shall have no other duties not related to safety.

**Biennial Period**

For purposes of the SPAR, the period ending 30 September each odd-numbered year.

**Commander**

For purposes of this Circular, the term Commander denotes the individual responsible for the personnel and equipment of a military Unit or Facility.

**Confined Space**

A space which is large enough and so configured that an employee can bodily enter and performed assigned work; and has limited or restricted means for entry or exit (e.g., tanks, vessels, silos, storage bins, hoppers, vaults, pits); and is not designed for continuous employee occupancy. (Reference 29 CFR 1910.146(b)).

**Countermeasure**

A control developed in the Risk Management process to reduce an assessed hazard. Although a countermeasure may be emplaced prior to undertaking the activity, it may also be developed as a response to a present-and-contributing (or noncontributing) factor in an accident investigation. (Also see Premeasure.) This term is synonymous with *Corrective Action*.

**Effectivity**

The date by which the Countermeasure will take effect. An aircraft serial number, a materiel lot number (or other tangible identification) may be used, if a date cannot be used to accurately identify the effectivity.

**Facility**

For purposes of this Circular, a (typically TDA) military organization operating as an AASF (and its subordinate elements), AVCRAD, AATS, or an AAFA.

**Flight Surgeon**

A Medical Officer who has graduated from the U.S. Army Aeromedical Center (USAAC) Aviation Medicine Course. Graduates from other military courses in aviation medicine must receive USAAC approval. References to Flight Surgeons include USAAC-trained APAs. (Reference AR 385-95)

**Foreign Object Damage (or Debris) (FOD)**

Any damage to, or malfunction of, an aircraft caused by some alien material. (Reference AR 385-95)

**Hazard**

Any actual or potential condition that can cause injury, illness, or death of personnel, damage to or loss of equipment, property, or mission degradation. (AR 385-10)

**Incident**

Is an Aircraft Class E or F occurrence (mishap) meeting the reporting requirements (as) defined in AR 385-40.

**Industrial Hygiene (IH)**

That science and art devoted to the recognition, evaluation, and control of those environmental factors or stresses, arising in or from the workplace, which may cause sickness, impaired health and well being, or significant discomfort and inefficiency among workers. (Reference DA Pam 40-503)

**Instructor Pilot (IP)**

An Aviator with a skill qualification to conduct training and evaluation of Pilots and Unit Trainers (UTs) in designated aircraft and to promote safety among Aviators. Training and evaluation include aircraft operation, qualification, unit tactical employment, visual and instrument flight, and crew performance. (Reference AR 385-95)

**MACOM**

For purposes of this Circular, this term is synonymous with NGB. According to AR 130-5, NGB issues, with the coordination and approval of DA, safety-related directives, regulations, and publications consistent with approved policies of the Army, as appropriate. Also, NGB serves as the administrative higher headquarters in matters related to Army Aviation Safety, for the 53 States/Territories for/to which ARNG Aviation materiel and personnel are assigned and operate; and in so doing, prescribes the training discipline and training requirements for the ARNG.

**Mishap**

For purposes of this Circular, and with the exceptions of differentiating defined accident reporting criteria IAW AR 385-40, the terms *Mishap*, *Accident*, and *Incident* are synonymous in terms of being unplanned events that result in damage to property or harm to individuals.

**Mission**

Flight or series of flights (sorties), conducted to accomplish a specific task or series of tasks in support of the Unit's/Facility's approved mission statement. Each mission is assigned to a designated PC and/or Air Mission Commander (AMC). (Reference AR 385-95)

**Near Mid-Air Collision**

Has occurred when, in the opinion of the PC, the safety of an airborne aircraft was jeopardized by the hazardous proximity of another airborne aircraft, not a member of the same flight. The following criteria are used to determine hazardous proximity:

- a. Collision avoidance was due to chance rather than an act of either pilot;
- b. a collision would have resulted if no action had been taken by either pilot; or
- c. a situation involving an estimated distance of less than 500 feet. (Reference AR 385-95)

**Occurrence**

The first time an event transpires, such as an accident, that requires the development of a remedy and corrective action. Each repetition of the event before the effectivity of the corrective action is known as a *repeat occurrence*.

**Officer**

For purposes of this Circular and unless otherwise specified, a Service Member in the rank of Corporal E-4 or higher.

**Operations Officer**

For purposes of this Circular, the Unit/Facility Officer principally responsible for administration of the Operations function.

**Operations Tempo (OPTEMPO)**

The annual operating miles or hours for the major equipment system in a battalion-level or equivalent organization. OPTEMPO is used by commanders to forecast and allocate funds for fuel and repair parts for training events and programs. (Reference FM 25-100, [Training the Force]).

**Permit-Required Confined Space (PRCS)**

Is a confined space that has one or more of the following characteristics: Contains or has a potential to contain a hazardous atmosphere; contains a material that has the potential for engulfing the entrant; has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or contains any other recognized serious safety or health hazard. (Reference 29 CFR 1910.146(b)).

**Product Quality Deficiency Report (PQDR)**

The form title for an SF 368, for purposes of this Circular, used IAW DA Pam 738-751.

**Program of Instruction (POI)**

For purposes of this Circular, a generic term for a briefing or training lesson plan. It may vary in complexity from simple bulleted concepts to be covered on a 3X5 card, to a formal broadcast-quality script covering dozens of pages. The complexity and length of a POI depends upon the time available for the presentation, the material to be covered, the projection medium (e.g., Power Point projector), and the capabilities of the presenter/briefer. There is no set formula implied for length of presentation/briefing and complexity/depth of POI.

**Quality Deficiency Report (QDR)**

A variant of the PQDR, for purposes of this Circular, used IAW DA Pam 738-751.

**Recurrence**

The first time an event transpires, such as an accident, after the emplacement and effectivity of a corrective action required by an occurrence. Each repetition of the recurrence is (also) known as a recurrence (“second recurrence”, “third recurrence”, etc.).

**Repeat Occurrence**

See definition of *Occurrence*.

**Restraining Device**

An apparatus such as a cage, rack, assemblage of bars and other components that will constrain all rim wheel components during an explosive separation of a multi-piece rim wheel, or during the sudden release of the contained air of a single piece rim wheel. (Reference 29 CFR 1910.177(b), and TM 55-2620-200-24)

**Risk**

Chance of hazard or bad consequence. The probability of exposure to chance of injury or loss from a hazard. Risk level is expressed in terms of hazard probability and severity. (Reference AR 385-10)

**Risk Assessment**

Steps one and two of the Army’s Risk Management Process – identification and assessment of potential loss in terms of hazards. An identified hazard is assessed to determine the risk (both the probability of occurrence and resulting severity) of an incident due to the presence of the hazard. (Reference AR 385-10)

**Risk Management**

The process of identifying, assessing, and controlling risk arising from operational factors and making decisions that balance risk cost with mission benefits. (Reference AR 385-10)

**Safety Briefing**

For purposes of this Circular, a targeted presentation of a safety-related subject, intended to be presented in a timely fashion to as wide an audience as practicable of Unit/Facility personnel. As the term implies, these presentations are differentiated from Safety Training by their informality and brevity.

**Safety Council**

A membership of selected personnel from the Unit/Facility, designated in writing, by the Unit/Facility Commander for the purpose of advising the Commander on the status of safety within the Unit/Facility and to recommend control options for improving safety. The council will meet on a regular basis as specified by AR and the Commander. In aviation Units, safety councils are specified as a CSC, an ESC, or as a combined Safety Council (typically referred to as an Aviation or Unit Safety Council). Because of organizational structure, Facilities typically combine the CSC and ESC as a single council.

**Safety Meeting**

For purposes of this Circular, a convention of a specifically chartered team or committee, which meets for a defined purpose and with a defined scope, such as a Command Safety Council. The term *Safety Meeting* is synonymous with neither *Safety Briefing* nor *Safety Training*.

**Safety Training**

For purposes of this Circular, a formal presentation of a safety-related subject, intended to be presented to a variety of ARNG personnel based on the POI for the course. These presentations are differentiated from Safety Briefings by their formality and regimented scope and duration. Safety Training is further distinguished by its preparation time, and typically employs participant handouts and some medium of presentation (for example, slides).

**Severity**

The expected consequence of an event (hazardous incident) in terms of degree of injury, property damage, or other mission impairing factors (loss of combat power, etc.) that could occur. (Reference AR 385-10)



**Standardization Instructor Pilot (SP)**

A qualified IP designated by the Commander, in writing, to train and evaluate IPs, UTs, Pilots, and other SPs. (Reference AR 385-95)

**State Army Aviation Officer (SAAO)**

A commissioned Officer rated as an Army Aviator on current NGB Aviation Service Orders, who may be a ARNG military Technician/AGR. They occupy a special staff position in the State/Territory headquarters and are directly responsible to the State/Territory AG for the establishment and staff supervision of the ARNG aviation programs within the State/Territory, except for the AVCRAD and AATS. (Reference NGR 95-1)

**State/Territory**

For purposes of this Circular, and unless otherwise stated, a generic term for a State, Territory, or the District of Columbia.

**Unit**

For purposes of this Circular, unless otherwise indicated, a (typically MTOE) military organization, Detachment or higher, but subordinate to a State/Territory.

**Section III****Special Abbreviations (including Acronyms and Initialisms) and Terms****AMPOC**

Aviation Mishap Prevention Orientation Course

**GMPOC**

Ground Mishap Prevention Orientation Course

**ASORC**

Aviation Safety Officer Refresher Course

**RWF**

Risk-Weighted Factor

**SPAR**

Safety Posture Assessment and Report

**Collocated Organizations**

For purposes of this Circular, those organizations physically located within the same Facility or Armory. Consideration must be given to times during which collocated Units drill - if those times are not normally synchronized, they fall outside this definition.

**Dotted-line relationship**

An indirect line of responsibility, authority, and accountability, of personnel in similar disciplines or functions, between organizational hierarchies. For instance, the ASO of a Company serves as a dotted-line subordinate to the ASO of the Battalion under which that Company is assigned, attached, or OPCON'd. Although the Battalion ASO, in this example, does not serve in the rating scheme of the Company ASO (which would fall under a "direct-line" or "solid-line" relationship), the performance and effectiveness of each ASO is based in part on the performance and effectiveness of the other.

**Mission Turnback**

Those missions returned to the Briefer by the Crew or Unit that were aborted after (at least an initial) undertaking.

**Mission Turndown**

Those missions returned to the Briefer by the Crew or Unit that were beyond the capability or capacity of the crew, or could not be managed within an acceptable risk range.

**Near Hit**

See definition of *Near Miss*.

**Near Miss**

For purposes of this Circular, a term synonymous with *Near Hit* in terms of an extraordinary event that did not complete the chain of events leading to an accident or incident, but still warrants the attention of the command to preclude repetition. Near misses are not limited to airborne events, but may include those that (nearly) happened during ground or water-borne operations.

**Promesure**

A control developed in the Risk Management process to reduce an assessed hazard that differs from a Countermeasure in its formulation. Promesures are purely proactive in nature, and may entail some measure of abstract thought – although they are definable in logic. Control measures based upon previous accidents are countermeasures; whereas, control measures developed only through a collective experience not based on a previous accident are promesures.

**Risk-Weighted Factor (RWF)**

The multiplicand by which each hour (or portion thereof) flown is multiplied to objectively express the stress or fatigue experienced. The example in Table 4-1 of this Circular suggests multiplying each hour conducted during a Moderate Risk mission by 1.7.

**Safety Element Coordinator**

Those supervisors as referenced in the definition of *Safety Element Manager* below.

**Safety Element Manager**

Unit/Facility personnel, appointed on orders, as principally responsible for the administration of a specified aspect of the safety program. They are responsible, and authorized, to administer the functions of that program and are jointly accountable to the ASO and their assigned supervisor for the accomplishment of those tasks. Their OER/NCOER/Performance Appraisals will (also) reflect measurement of performance in this(ese) duties.

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